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19 September 2006

Mr. Russell D. Hart  
Remedial Project Manager (SR-6J)  
U.S. Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Chicago, IL 60604

RFW Work Order No. 13471.003.001  
TRONOX Work Order No. 40-50-01-AKW-AE

Re: 2<sup>nd</sup> Quarter 2006 Groundwater Monitoring Report  
Moss-American Site, Milwaukee, WI

Dear Mr. Hart:

Enclosed is the groundwater monitoring report for the 2<sup>nd</sup> quarter of 2006. Should you have any questions or comments, please contact me at (847) 918-4142 or Keith Watson at (405) 775-5475.

Very truly yours,

WESTON SOLUTIONS, INC.

A handwritten signature in black ink that reads "Thomas P. Graan".

Thomas P. Graan, Ph.D.  
Principal Project Manager

TPGltg

cc: T. Wentland, WDNR  
K. Watson, KMC



**QUARTERLY GROUNDWATER TREATMENT  
PERFORMANCE MONITORING REPORT**  
**Q2 2006**  
**MOSS-AMERICAN SITE**  
**MILWAUKEE, WISCONSIN**

Prepared for

**TRONOX, LLC**  
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Oklahoma City, OK 73102

Prepared by

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**September 2006**

**W. O. No. 13741.003.001.0010**

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## **SECTION 1**

### **INTRODUCTION**

In accordance with paragraph 4a of the Remedial Design/Remedial Action Statement of Work (RD/RA SOW), Tronox LLC (TRONOX), formerly known as Kerr-McGee Chemical, LLC, is required to implement a groundwater monitoring program capable of detecting changes in chemical concentrations in the groundwater. TRONOX has directed Weston Solutions, Inc. (WESTON®) to perform this work. As previously agreed, the monitoring network currently includes seven shallow groundwater monitoring wells (MW-5S, MW-6S, MW-7S, MW-9S, MW-27S, MW-28S, and MW-29S). Additionally, the quarterly groundwater monitoring program includes sampling of the eight containment performance monitoring wells (MW-30S, MW-31S, MW-32S, MW-33S, MW-34S, MW-35S, MW-36S and MW-37S), which are screened in the shallow groundwater-bearing unit underlying the site. Nine piezometer wells (PZ-01, PZ-02, PZ-03, PZ-04, PZ-05, PZ-06, PZ-07, PZ-09, and PZ-10) and one staff gauge (SG-01) were installed in December 2002 to monitor groundwater movement. The locations of piezometers, the staff gauge, and the groundwater-monitoring wells that are included in the quarterly sampling program are indicated on Figure 1-1.

In addition to the on-site groundwater monitoring wells, four shallow groundwater monitoring wells (MW-A, MW-B, MW-C and MW-D) were installed in September 2003 to monitor groundwater conditions between old and new river channels in the Reach 1. These four wells are sampled annually (during Q3 sampling events) in accordance with the annual groundwater monitoring program for the Reach 1 area.

In December 2004, seven additional shallow groundwater monitoring wells (MW-E, MW-F, MW-G, MW-H, MW-I, MW-J and MW-K) were installed to monitor groundwater conditions between old and new river channels in the Reaches 2 and 3. These seven wells are sampled annually (during Q3 sampling events) in accordance with the annual groundwater monitoring program for the Reaches 2 and 3.

Some wells that were previously part of the groundwater-monitoring network have been removed to facilitate soil remediation activities. TW-09, MW-8S, and MW-8I were removed during excavation activities and installation of the funnel-and-gate groundwater treatment system in 1999. Wells MW-4S and MW-4I were removed during early Q3 2001, and well TW-05 was removed in early Q4 2001 during the “hot spot” soil excavation and treatment process. Wells MW-20S and MW-20I were removed during Q3 2002 when the Little Menominee River (LMR) diversion work took place.

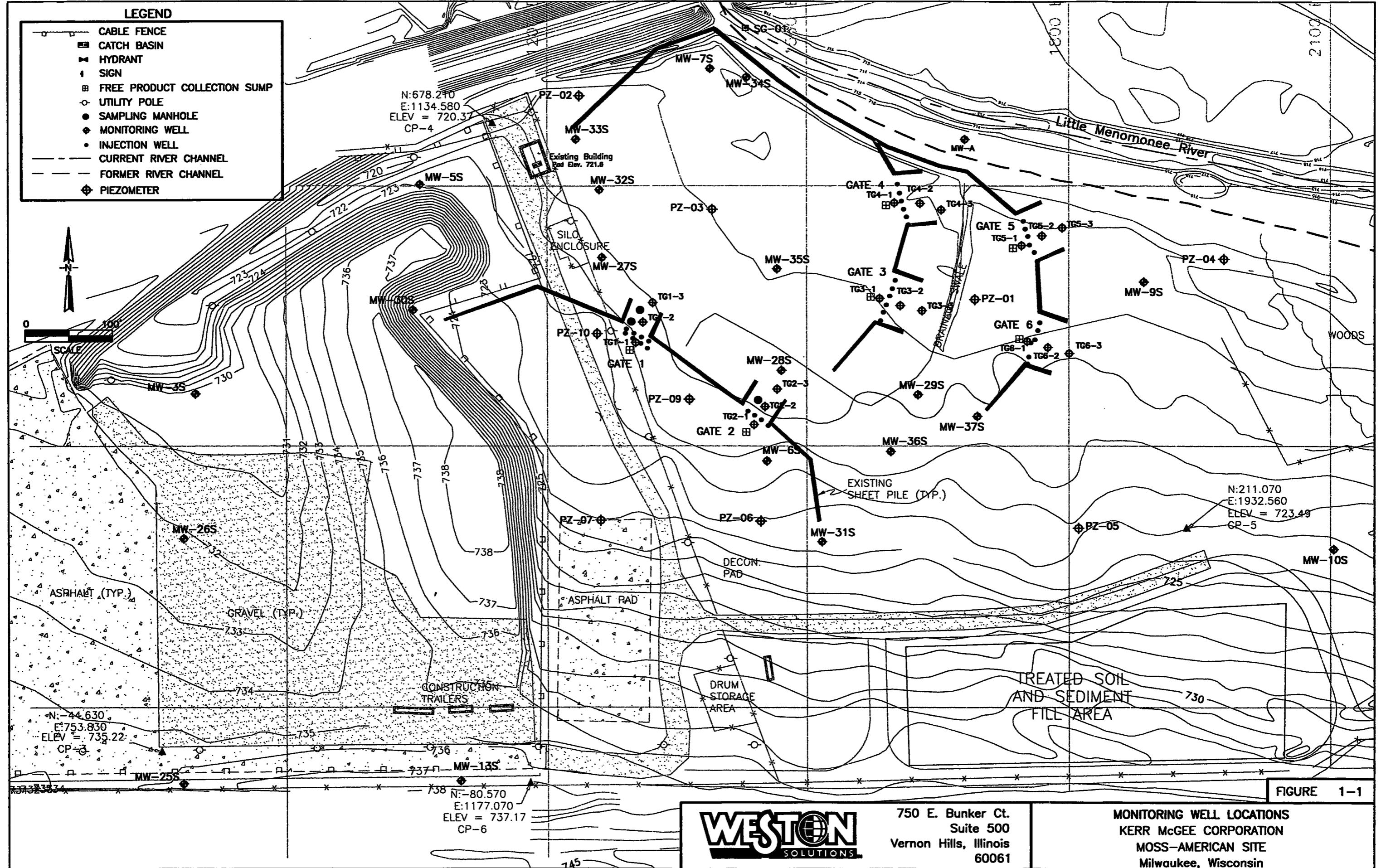
As discussed in the Q2 2002 Quarterly Groundwater Treatment Performance Monitoring Report, some modifications were made to the sampling program. The first modification was the reduction of performance monitoring well sampling frequency. The treatment performance monitoring wells were originally sampled on a monthly basis, but sample data showed that minimal changes in site conditions were found on a monthly basis. Therefore a change in sampling frequency from monthly to quarterly was recommended. This recommendation was approved by the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (collectively “Agencies”) and the monthly sampling program was discontinued after the October 2002 sampling event. The second modification was the reduction of the groundwater monitoring program scope. It was proposed that some shallow monitoring wells (MW-3S, MW-10S, MW-13S, MW-25S, MW-26S, and MW-20S) and intermediate monitoring wells (MW-3I, MW-7I, MW-9I, and MW-20I) be removed from the groundwater monitoring program due to zero or few sample detections in these wells. The Agencies approved this recommendation, and the sampling of these wells was discontinued after the September (Q3) 2002 sampling event; however, per the Agencies’ request, these wells were not abandoned, with the exception of MW-20S and MW-20I abandoned during LMR diversion. Instead these wells are utilized to collect water level measurements for the production of more accurate quarterly groundwater potentiometric maps.

The Quality Assurance Project Plan for Installation of Groundwater Remedial System (QAPP) (WESTON, October 1999) requires TRONOX to implement a groundwater monitoring program capable of indicating groundwater chemistry before, during, and after treatment. In addition, the hydraulic gradient is calculated at each treatment gate and is used to estimate groundwater flow

velocity through the treatment gate remediation system. The monitoring network includes six groundwater treatment gates (TG1 through TG6) with three treatment performance monitoring wells located at each groundwater treatment gate. The treatment performance monitoring wells include TG1-1, TG1-2, TG1-3, TG2-1, TG2-2, TG2-3, TG3-1, TG3-2, TG3-3, TG4-1, TG4-2, TG4-3, TG5-1, TG5-2, TG5-3, TG6-1, TG6-2, and TG6-3. The locations of the treatment performance monitoring wells are indicated on Figure 1-1.

In accordance with paragraph 4a (i) of the RD/RA SOW, the quarterly field measurement and analysis of groundwater samples collected from the shallow and containment performance groundwater monitoring wells include groundwater elevation, pH, temperature, turbidity, specific conductance, oxidation-reduction (redox) potential, and dissolved oxygen (DO). Required laboratory analyses include benzene, toluene, ethylbenzene, and xylene (BTEX collectively) and the following polynuclear aromatic hydrocarbon (PAH) compounds: acenaphthylene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene.

In accordance with Addendum No. 1 to the QAPP (WESTON, May 2001), the quarterly field measurements for samples collected from the treatment performance monitoring wells include groundwater elevation, pH, temperature, turbidity, specific conductance, redox potential, and DO. Quarterly laboratory analyses required for the treatment performance wells include microbial enumeration, nitrate-nitrogen ( $\text{NO}_3\text{-N}$ ), nitrite-nitrogen ( $\text{NO}_2\text{-N}$ ), total Kjeldahl nitrogen (TKN), ammonia-nitrogen ( $\text{NH}_3\text{-N}$ ), total phosphate-phosphorous ( $\text{PO}_4\text{-P}$ ), orthophosphate (ORP), biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC), BTEX, and the PAHs indicated in the above paragraph.



## SECTION 2

### ON-SITE GROUNDWATER MONITORING RESULTS

The Q2 2006 groundwater-monitoring event at the Moss-American site was completed between 26 and 28 June 2006. Tasks completed during the field effort for this event included the collection of groundwater elevation and DO data from the shallow groundwater monitoring, containment performance monitoring, and treatment performance monitoring wells referenced in Section 1. Following groundwater elevation and DO measurements, groundwater samples were collected from the shallow, containment performance, and treatment performance monitoring wells. The results of the Q2 2006 groundwater sampling event are described in the following subsections.

#### **2.1 GROUNDWATER ELEVATION MEASUREMENTS**

Depth to water measurements in each of the shallow groundwater monitoring, containment performance monitoring, treatment performance monitoring, and piezometers were made on 26 June 2006. These measurements were used to determine the elevation of the potentiometric surface within the shallow groundwater-bearing zone underlying the site. The water level measurements for the shallow groundwater monitoring and containment performance monitoring wells and calculated elevations are presented in Table 2-1. The groundwater level measurements and corresponding groundwater elevations, calculated hydraulic gradients across the treatment gates, and estimated groundwater flow velocities through the treatment gates are presented in Table 2-2. The groundwater levels for the piezometers are presented in Table 2-3. The staff gauge that was damaged between the Q1 and Q2 2005 sampling events is still awaiting repair and was not read in Q2 2006. Figure 2-1 presents a potentiometric surface map of the shallow groundwater-bearing zone, based on the June 2006 data. Figure 2-2 presents the groundwater potentiometric surface elevations during Q1 2006. An evaluation of the Q2 2006 potentiometric surface map is presented below.

As shown in Figure 2-1, the groundwater within the shallow groundwater-bearing zone generally flows northeastward toward the LMR. In the topographically higher (western) portion of the site, the horizontal hydraulic gradient is relatively steep, at approximately 0.029 feet per foot (ft/ft) to the northeast, as measured from the vicinity of MW-13S to PZ-07. The topography of the site

levels out near the river, as does the potentiometric surface with a northerly hydraulic gradient of approximately 0.019 ft/ft, as measured from the vicinity of PZ-05 to the vicinity of MW-9S. The estimated hydraulic gradients within the treatment gates ranged from 0.0003 to 0.0049 ft/ft (Table 2-2). The hydraulic gradient is relatively flat within the treatment gate area with an overall hydraulic gradient from TG1 to TG5 of approximately 0.0014 ft/ft in an easterly direction.

The average velocity of groundwater flow within the shallow water-bearing zone can be calculated using the following equation:

$$v = Ki/n$$

where:

v = groundwater velocity

K = hydraulic conductivity (also referred to as the coefficient of permeability)

i = hydraulic gradient

n = porosity

Based on slug tests performed on wells installed during the remedial investigation (RI), the hydraulic conductivity of the deposits located on the topographically higher, western portion of the site were in the range of  $1 \times 10^{-5}$  to  $1 \times 10^{-6}$  centimeters per second (cm/s) (0.03 to 0.003 feet per day [ft/day]). Based on laboratory-performed hydraulic conductivity analyses conducted on material used to backfill areas of the site located along the LMR, the hydraulic conductivity of soils located in the topographically lower portion of the site within the funnel-and-gate remedial system is approximately  $1 \times 10^{-3}$  cm/s (3 ft/day). Using a hydraulic gradient of 0.029 ft/ft, an assumed effective porosity of 0.3, and a hydraulic conductivity of 0.03 ft/day, the groundwater flow velocity in the western portion of the site is calculated to be approximately 0.0029 ft/day. Near the river, using a hydraulic gradient of 0.019 ft/ft, a porosity of 0.3, and a hydraulic conductivity of 3 ft/day, the velocity of groundwater flow is calculated to be approximately 0.19 ft/day. The groundwater flow velocities within the treatment gates are estimated to range from 0.0028 to 0.046 ft/day. The groundwater flow velocity through each treatment gate is presented in Table 2-2.

## **2.2 GROUNDWATER SAMPLE ANALYTICAL RESULTS**

Groundwater samples were collected from a total of 33 shallow monitoring wells screened within the shallow groundwater-bearing unit. The shallow wells sampled include seven shallow groundwater monitoring wells (MW-5S, MW-6S, MW-7S, MW-9S, MW-27S, MW-28S, and MW-29S); eight containment performance monitoring wells (MW-30S, MW-31S, MW-32S, MW-33S, MW-34S, MW-35S, MW-36S and MW-37S); and eighteen treatment performance monitoring wells (TG1-1, TG1-2, TG1-3, TG2-1, TG2-2, TG2-3, TG3-1, TG3-2, TG3-3, TG4-1, TG4-2, TG4-3, TG5-1, TG5-2, TG5-3, TG6-1, TG6-2, and TG6-3).

In addition to the investigative groundwater samples collected, three field sample duplicate, two matrix spike/matrix spike duplicate (MS/MSD), and three field blank (identified by an FB prefix) samples were collected for quality assurance/quality control (QA/QC) purposes. Trip blanks accompanied each cooler of sample containers from the laboratory to the site and were shipped back to the laboratory within each cooler containing volatile organic compound (VOC) samples.

All groundwater samples were field screened and laboratory analyzed for the parameters indicated in Section 1.

### **2.2.1 Field-Measured Parameters**

The groundwater samples were measured in the field for pH, specific conductance, temperature, redox potential, DO, and turbidity. The field parameters were collected using a YSI 556 portable water quality meter and a HS Scientific DRT-15CE turbidimeter. Downhole DO readings were collected from monitoring wells after sampling at a given well was completed. The groundwater pH, redox potential, specific conductance, temperature, and turbidity were monitored during well purging prior to sampling. The final (stabilized) values for these measurements prior to sample collection are presented in Table 2-4. Water quality parameter measurements were not collected from well TG1-1 and MW-34S due to the presence, or the historical presence, of sheen or product in the purge water during Q2 2006.

### **2.2.1.1 pH**

The pH of the groundwater samples collected during Q2 2006 ranged from 6.45 to 7.25 pH standard units (S.U.). pH is an important factor in determining the feasibility of bioremediation of contaminants in the site groundwater because biological systems typically function only in narrow pH ranges (typically 6.5 to 8.5 S.U.), and because microbial growth rates are pH dependent.

### **2.2.1.2 Redox Potential**

The redox potentials of the groundwater samples collected at the site during Q2 2006 ranged from -136.9 to 45.1 millivolts (mV). Redox potential indicates the capability of the groundwater to promote chemical oxidation-reduction processes that consume organic matter and ultimately oxidize organic compounds. Microorganisms typically act as catalysts in oxidation reactions, and as such, the redox potential indicates the potential for the groundwater to oxidize the contaminants present.

Since environmental systems are typically not in equilibrium, the redox potential is used as a gross indicator of the state of oxidation-reduction in the system. Oxidation-reduction rates in the system are greater as the redox potential increases in magnitude. A positive redox potential typically indicates conditions where oxidized ionic species (i.e.,  $\text{NO}_3^-$ ,  $\text{SO}_4^{2-}$ , and  $\text{Fe}^{3+}$ ) predominate in comparison to their reduced counterparts ( $\text{NH}_4^+$ ,  $\text{S}^{2-}$ , and  $\text{Fe}^{2+}$ , respectively). Once DO is removed from water (i.e., via biodegradation of organics), oxidized ionic species become electron acceptors in redox processes. As the processes continue under anaerobic conditions, the reduced ionic species concentration increases, resulting in an overall decrease of the water's oxidation potential.

### **2.2.1.3 Dissolved Oxygen**

DO levels for the groundwater samples collected during Q2 2006 ranged from 0.01 to 5.18 milligrams per liter (mg/L) with three levels above 2.0 mg/L. Overall, the DO readings indicate the presence of low to intermediate levels of oxygen in the water, and the system as a whole is

considered to be generally under suboxic conditions. DO promotes the growth of aerobic and facultative bacteria and the production of readily assimilated nutrients. All of these factors are required to facilitate the oxidation reaction responsible for removing the contaminants from the groundwater under aerobic conditions.

#### **2.2.1.4 Specific Conductance**

The specific conductance, or conductivity, of the groundwater samples collected during Q2 2006 ranged from 0.31 to 2.188 millimhos per centimeter (mmho/cm). Conductivity of water is a measure of the ability of the solution to carry an electrical current that is transported by ions in the solution; therefore, conductivity is used as an indicator of the total dissolved solids (TDS) present in a water sample. As the dissolved solids content of a solution increases, the capacity for the water to transmit electrical current increases. Although conductivity is a measure of the aggregate dissolved solids in the water it may be correlated to the readily available nutrient levels in the water, since TDS includes nitrate, nitrite, ammonium, and phosphate ions.

#### **2.2.1.5 Temperature**

Groundwater temperatures ranged from 10.92 to 14.23 degrees Celsius ( $^{\circ}\text{C}$ ) during Q2 2006. Temperature is an extremely important factor in bioremediation because microbial growth rates are greatly dependent upon temperature.

#### **2.2.1.6 Turbidity**

Turbidity ranged from 0.13 to 4.23 nephelometric turbidity units (NTU) during Q2 2006. Turbidity is a measure of the clarity of water and is used as an indicator of the solids present in a water sample and overall water quality.

## **2.2.2 Laboratory Analyses**

The results of the laboratory analyses performed on the groundwater samples collected during June 2006 are provided in Appendix A. A discussion of the results of the laboratory analyses performed on the groundwater samples are presented in the following subsections.

### **2.2.2.1 Laboratory Analyses for BTEX and PAH**

Each groundwater sample collected during the June 2006 sampling event was analyzed for BTEX and PAH compounds. The results of these analyses are presented and compared to WDNR Preventive Action Limits (PALs) and Enforcement Standards (ESs) in Table 2-5. Table 2-5 identifies parameters detected at concentrations exceeding their respective PALs (shown as bolded values). Parameters with concentrations exceeding both PALs and ESs are presented as shaded and bolded values in Table 2-5. Exceedences are summarized in the following paragraphs.

#### **Groundwater Sample Results**

As shown in Table 2-5, benzene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, and pyrene were detected at concentrations exceeding their respective PALs and/or ESs in the groundwater samples collected from the shallow monitoring well network. The results are as follows:

#### **WDNR PAL Exceedences**

- Benzene was detected at concentrations exceeding the PAL of 0.5 micrograms per liter ( $\mu\text{g}/\text{L}$ ) in the groundwater samples collected from wells MW-7S and MW-34S.
- Benzo(a)pyrene was detected at concentrations exceeding the PAL of 0.02  $\mu\text{g}/\text{L}$  in the groundwater samples collected from wells MW-34S, TG1-1, TG1-2, and TG6-2.
- Benzo(b)fluoranthene was detected at concentrations exceeding the PAL of 0.02  $\mu\text{g}/\text{L}$  in the groundwater samples collected from wells MW-34S, TG1-1, and TG6-2.

- Chrysene was detected at concentrations exceeding the PAL of 0.02 µg/L in the groundwater sample collected from well MW-34S.
- Fluoranthene was detected at a concentration exceeding the PAL of 80 µg/L in the groundwater sample collected from well TG1-1.
- Fluorene was detected at concentrations exceeding the PAL of 80 µg/L in the groundwater samples collected from wells MW-34S and TG1-1.
- Naphthalene was detected at concentrations exceeding the PAL of 8 µg/L in the groundwater samples from wells MW-7S, MW-34S, TG1-1 and TG1-2.
- Pyrene was detected at a concentration exceeding the PAL of 50 µg/L in the groundwater sample collected from well TG1-1.

#### WDNR ES Exceedences

- Benzene was detected at a concentration exceeding the ES of 5 µg/L in the groundwater sample collected from well MW-34S.
- Benzo(a)pyrene was detected at concentrations exceeding the ES of 0.2 µg/L in the groundwater sample collected from well TG1-1.
- Benzo(b)fluoranthene was detected at concentrations exceeding the ES of 0.2 µg/L in the groundwater sample collected from well TG1-1.
- Chrysene was detected at concentrations exceeding the ES of 0.2 µg/L in the groundwater sample collected from well MW-34S.
- Naphthalene was detected at concentrations exceeding the ES of 40 µg/L in the groundwater samples collected from wells MW-34S, TG1-1, and TG1-2.

The plume boundary is primarily in an area encompassing four shallow monitoring wells (MW-7S, MW-34S, TG1-1, and TG1-2). Although two PAH's were detected in TG6-2 above PALs, these exceedances have not typically been detected in this well and are not considered to be part of a plume.

The majority of PAL and ES exceedances are associated with wells MW-34S and TG1-1 in which free product has historically been observed. In general, PAH concentrations measured in groundwater samples collected from the rest of the site were at relatively low levels with only sporadic PAL/ES exceedances. Based on these detected concentrations, the contaminant plume generally demonstrates a northeasterly trend, as indicated in Figure 2-1, similar to the previous

28 quarterly groundwater sampling events. Very low (estimated) concentrations of one or more of the following constituents were detected during the Q2 2006 round below the PAL/ES in treatment gate wells TG1-3, TG2-2, TG3-3, TG4-2, and TG6-3: acenaphthene, anthracene, flouranthene, and fluorene. No other PAHs, or BTEX constituents, were observed in the treatment gates.

A summary of the concentration of contaminants at wells that have regularly exceeded PALs and/or ESs during the last 12 quarters (3 years) is presented in Table 2-6. Levels of benzene, naphthalene, fluorene, and benzo(a)pyrene fluctuate over wide ranges in some of these wells. However, several constituents have shown an overall decreasing trend in monitoring wells MW-32S, MW-33S and MW-35S. Benzene, fluorene, and benzo(a)pyrene concentrations have remained relatively constant in MW-7S; however, naphthalene concentrations show an overall decreasing trend in MW-7S. Well MW-34S has shown overall fluctuating levels in naphthalene, fluorene, and benzo(a)pyrene; however, benzene concentrations have remained relatively consistent in MW-34S. During Q2 2006, 0.2 feet of free product was detected in well MW-34S. Varying levels of free product have been found in MW-34S in the recent past. This correlates with the elevated levels of constituents found in MW-34S. Well TG1-1 has shown fluctuating naphthalene, fluorene, and benzo(a)pyrene concentrations since it was first sampled in Q3 2000. These fluctuating concentrations could be due to the presence of free product which has historically been observed in well TG1-1.

#### **2.2.2.2 Laboratory Analyses for Treatment Performance Monitoring**

The groundwater samples collected from the treatment performance monitoring wells were analyzed for microbial enumeration, NO<sub>3</sub>-N, NO<sub>2</sub>-N, TKN, NH<sub>3</sub>-N, PO<sub>4</sub>-P, ORP, BOD, COD, TOC, BTEX, and PAHs. The analytical results for microbial enumeration, NO<sub>3</sub>-N, NO<sub>2</sub>-N, TKN, NH<sub>3</sub>-N, PO<sub>4</sub>-P, ORP, BOD, COD, and TOC are presented in Table 2-7. The analytical results for the treatment performance monitoring well groundwater samples are summarized below. The laboratory reports of nutrient and microbial analyses are also included in Appendix A.

### Nitrogen and Phosphorous Compounds

Nitrate was detected in TG1-2 and T2-2 at concentrations of 0.066 and 0.058 mg/l, respectively. Nitrate was not detected above detection limits in the remaining treatment performance monitoring wells. Nitrite was not detected above the detection limits in any of the treatment performance monitoring well samples. TKN results include four non-detect results and detections with concentrations ranging from 0.63 to 1.9 mg/L. Ammonia results include two non-detect results and detections ranging from 0.48 to 2.0 mg/L. Overall, nitrogen compound concentrations are at relatively low levels; however, previous sample results have indicated that NH<sub>3</sub>-N concentrations are typically an order of magnitude greater than NO<sub>3</sub>-N concentrations and approximately two orders or magnitude greater than NO<sub>2</sub>-N.

PO<sub>4</sub>-P and ORP were not detected above the detection limits in any of the treatment performance monitoring well samples.

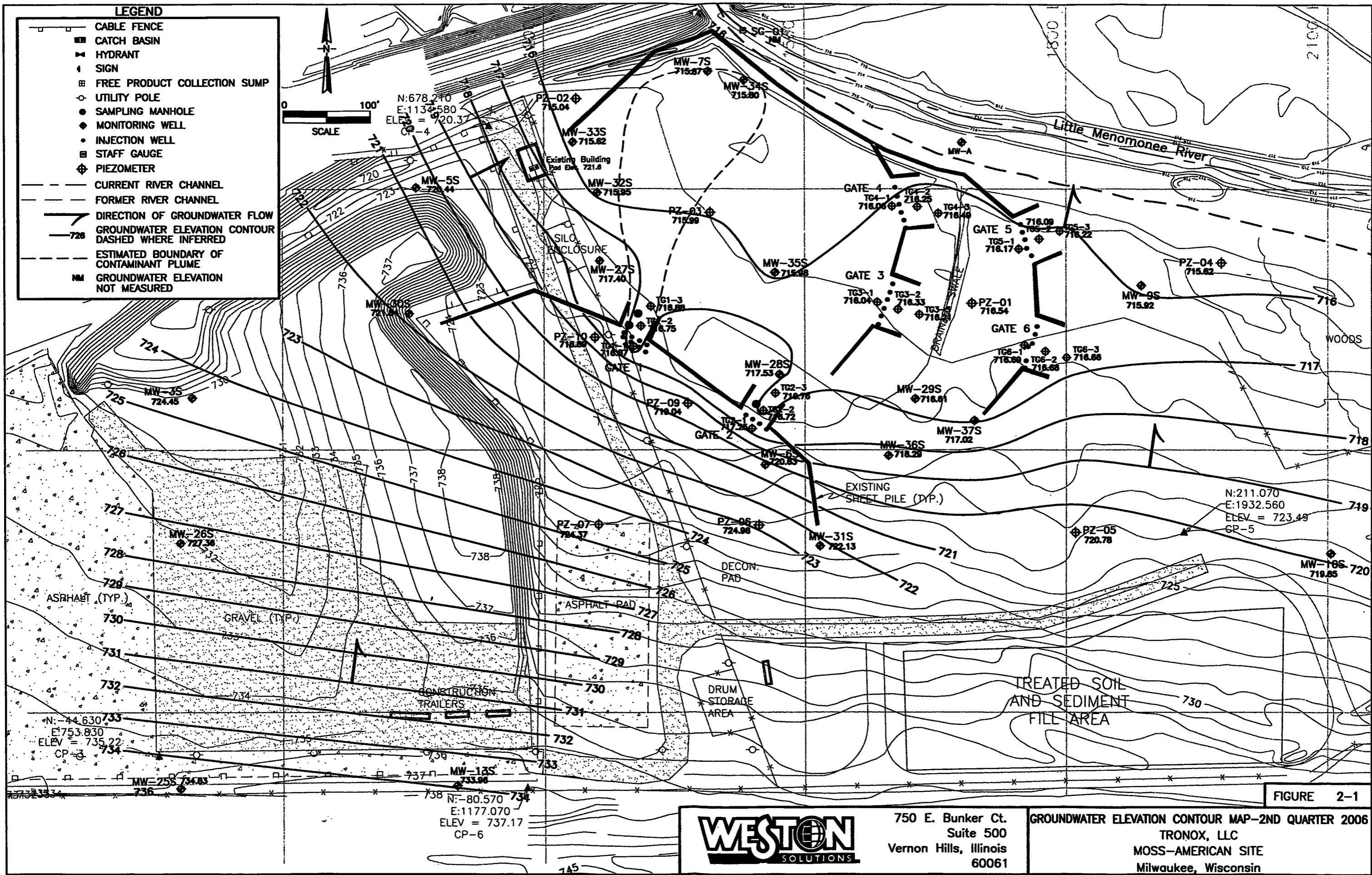
### BOD, COD, and TOC

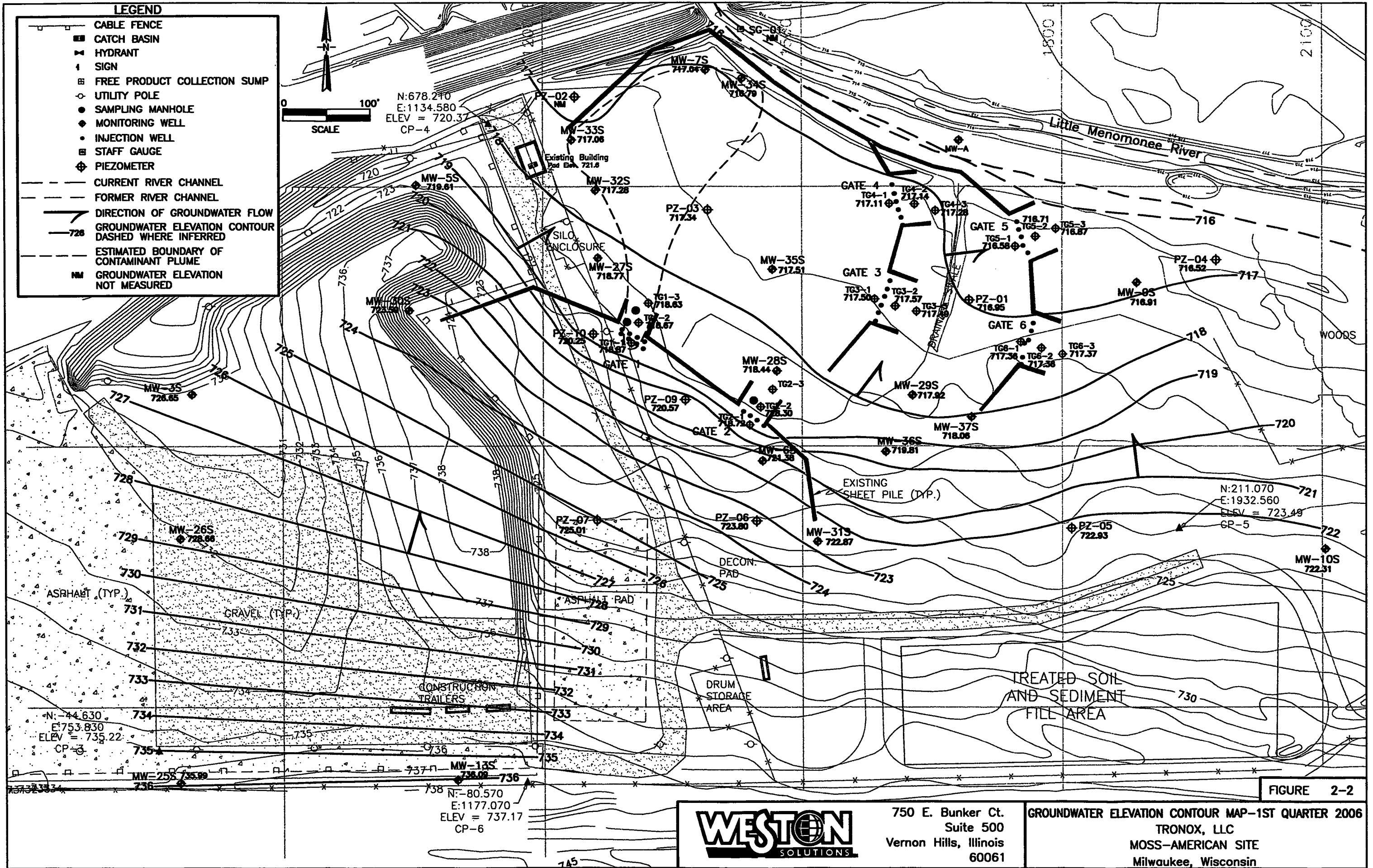
BOD results include non-detect results and one detection at a concentration of 12.7 mg/L in TG3-3. COD concentrations for the samples collected throughout the treatment system ranged from 8.7 to 33.3 mg/L. TOC concentrations for the samples collected throughout the treatment system ranged from 2.2 to 10.9 mg/L. As expected, the treatment gate wells indicate less BOD compared to COD. COD indicates the presence of constituents that exert an oxygen demand, including carbon compounds such as the site contaminants in the groundwater, and other constituents such as ammonia, sulfurous compounds; and biological material such as humic acids and detritus. A significant portion of oxygen demand exerted by the constituents measured in the COD test may not be readily biodegradable and would typically exert the oxygen demand over an extended time period. The oxygen demand exerted by the constituents the COD analysis detected is catalyzed chemically and thermally. The low BOD indicates low concentrations of material that is readily biodegradable and/or quickly oxidized.

### Microbial Enumeration

The total microbial populations for TG1 and TG2 ranged from  $2.8 \times 10^2$  to  $8.5 \times 10^4$  colony forming units per milliliter (CFU/mL) during Q2 2006. The total microbial population for TG3 and TG4 ranged from  $1.1 \times 10^3$  to  $1.7 \times 10^4$  CFU/mL during Q2 2006. The total microbial populations for TG5 and TG6 ranged from  $2.5 \times 10^2$  to  $8.9 \times 10^4$  CFU/mL during Q2 2006.

The result of degrader microbial population analysis for TG1 and TG2 included four non-detect results and detections of  $7.1 \times 10^2$  and  $7.2 \times 10^2$  CFU/mL, in TG1-1 and TG2-3, respectively, during Q2 2006. The degrader microbial populations for TG3 and TG4 ranged from  $1.3 \times 10^2$  to  $2.4 \times 10^3$  CFU/mL during Q2 2006. The degrader microbial populations for TG5 and TG6 included two non-detect results and detections ranging from  $3.2 \times 10^2$  to  $1.2 \times 10^4$  CFU/mL during Q2 2006.





E:1177.070  
ELEV = 737.17  
CP-6

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Suite 500  
Vernon Hills, Illinois  
60061**

**GROUNDWATER ELEVATION CONTOUR MAP—1ST QUARTER 2006**

**TRONOX, LLC**

**MOSS-AMERICAN SITE**

**Milwaukee, Wisconsin**

**Table 2-1**

**Groundwater Elevation Measurements**  
**Shallow and Containment Performance Monitoring Wells**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Well ID	Ground Elevation	TOC Elevation	Depth to Water	Groundwater Elevation	Product Thickness
MW-3S	729.71	731.45	7.00	724.45	None Detected
MW-5S	723.41	724.63	4.18	720.45	
MW-6S	723.11	725.24	4.61	720.63	
MW-7S	719.47	721.59	5.72	715.87	
MW-9S	719.15	721.66	5.74	715.92	
MW-10S	723.95	726.76	6.91	719.85	
MW-13S	737.73	738.58	4.62	733.96	
MW-25S	736.95	739.19	4.36	734.83	
MW-26S	732.31	731.87	4.51	727.36	
MW-27S	720.57	723.10	5.70	717.40	
MW-28S	719.64	722.13	4.60	717.53	
MW-29S	719.51	722.17	5.56	716.61	
MW-30S	725.35	727.34	5.50	721.84	
MW-31S	725.29	725.31	3.18	722.13	
MW-32S	719.68	722.79	6.84	715.95	
MW-33S	719.25	721.81	6.19	715.62	
MW-34S	718.97	721.52	5.72	715.80	0.2
MW-35S	718.14	721.75	5.77	715.98	None Detected
MW-36S	720.41	723.21	4.92	718.29	
MW-37S	721.33	723.30	6.28	717.02	

**Notes:**

All values in feet.

All elevation measurements are with respect to Mean Sea Level (MSL).

TOC = Top of well casing.

GW = Groundwater.

Depth to groundwater was measured on 26 June 2006

**Table 2-2**

**Groundwater Elevation Measurements  
Treatment Performance Monitoring Wells  
Moss-American Site  
Milwaukee, Wisconsin  
Second Quarter 2006**

Well ID	Ground Elevation	TOC Elevation	Depth to Water	GW Elevation	Hydraulic Gradient (ft/ft)	Groundwater Velocity (ft/day)	Product Thickness
TG1-1	719.77	723.32	6.45	716.87	-0.0013	-0.0123	None Detected
TG1-2	720.06	722.81	6.06	716.75			
TG1-3	719.56	722.53	5.65	716.88			
TG2-1	720.67	723.80	6.55	717.25			
TG2-2	720.62	723.05	6.33	716.72			
TG2-3	720.06	722.61	5.85	716.76			
TG3-1	719.14	721.05	5.01	716.04			
TG3-2	718.87	720.92	4.59	716.33			
TG3-3	718.35	720.60	4.39	716.21			
TG4-1	718.06	721.14	5.08	716.06			
TG4-2	718.26	720.75	4.5	716.25			
TG4-3	718.01	720.04	3.55	716.49			
TG5-1	717.60	721.12	4.95	716.17	0.0049	0.0463	
TG5-2	718.18	720.63	4.54	716.09			
TG5-3	718.17	719.99	3.77	716.22			
TG6-1	719.47	721.96	5.27	716.69	-0.0005	-0.0047	
TG6-2	719.70	722.05	5.37	716.68			
TG6-3	719.58	722.47	5.81	716.66			

**Notes:**

All values in feet.

All elevation measurements are with respect to Mean Sea Level (MSL).

Porosity of soil is assumed to be 0.3.

Hydraulic conductivity of treatment gate material is assumed to be 1E-3 cm/s = 3.0 ft/day.

TOC = Top of the casing.

GW = Groundwater.

ft/day = feet per day.

ft/ft = feet per foot.

A negative value in the groundwater velocity column indicates that the groundwater flow was opposite to the general direction of groundwater flow at the site.

Depth to groundwater was measured on 26 June 2006

**Table 2-3**

**Groundwater Elevation Measurements**  
**Piezometers and Staff Gauge**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Well ID	Ground Elevation	TOC Elevation	Depth to Water	Groundwater Elevation	Product Thickness
<b>Groundwater</b>					
PZ-01	718.04	721.05	4.51	716.54	None Detected
PZ-02	718.89	721.84	6.80	715.04	
PZ-03	719.00	722.09	6.10	715.99	
PZ-04	717.30	720.22	4.60	715.62	
PZ-05	724.34	727.43	6.65	720.78	
PZ-06	724.62	727.79	4.83	722.96	
PZ-07	725.78	728.72	4.35	724.37	
PZ-09	721.12	724.08	5.04	719.04	
PZ-10	722.04	725.05	6.16	718.89	
<b>Surface Water</b>					
ID	Top of Staff Gauge Elevation	Staff Gauge Reading	Water Elevation		
SG-01	716.22	NM	NC		

Notes:

All values in feet.

All elevation measurements are with respect to Mean Sea Level (MSL).

TOC = Top of well casing.

GW = Groundwater.

NM= Not measured

NC= Could not be calculated due to insufficient data

Depth to groundwater was measured on 26 June 2006

**Table 2-4**

**Field-Measured Parameters**  
**Shallow Groundwater and Containment Performance Monitoring Wells**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

<b>Well ID</b>	<b>Dissolved Oxygen (mg/L)</b>	<b>Redox Potential (mV)</b>	<b>pH (Standard Units)</b>	<b>Specific Conductance (mmho/cm)</b>	<b>Temperature (Deg C)</b>	<b>Turbidity (NTU)</b>
MW-5S	1.15	-13.1	6.81	0.310	12.66	0.45
MW-6S	2.18	39.9	6.92	0.720	12.81	4.2
MW-7S	0.01	-120.7	6.88	0.758	10.92	1.13
MW-9S	0.52	20.9	6.45	0.730	12.91	3.49
MW-27S	0.15	10.1	6.79	1.015	13.49	3.42
MW-28S	0.04	-1.1	6.5	0.693	13.72	3.23
MW-29S	0.38	-39.2	6.93	0.682	13.57	2.56
MW-30S	0.13	-23.1	6.75	2.188	11.98	2.56
MW-31S	5.18	39.2	7.04	0.845	13.29	4.1
MW-32S	0.11	32.1	6.93	1.131	12.94	0.13
MW-33S	2.13	45.1	6.61	1.310	13.55	0.9
MW-34S	NM	NM	NM	NM	NM	NM
MW-35S	0.1	-37.5	6.66	1.299	13.79	0.2
MW-36S	1.55	-1.6	7.2	0.661	13.39	1.63
MW-37S	0.32	-33.2	6.74	0.821	13.28	1.43

**Table 2-4 (Continued)**

**Field-Measured Parameters**  
**Treatment Performance Monitoring Wells**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Well ID	Dissolved Oxygen (mg/L)	Redox Potential (mV)	pH (Standard Units)	Specific Conductance (mmho/cm)	Temperature (Deg C)	Turbidity (NTU)
TG1-1	NM	NM	NM	NM	NM	NM
TG1-2	0.04	-127.2	7.17	0.901	12.9	4.21
TG1-3	0.06	-126.2	7.11	0.913	13.15	0.13
TG2-1	0.06	-15.8	6.88	0.834	12.47	2.42
TG2-2	0.12	-113.8	7.11	0.748	12.04	0.39
TG2-3	0.29	-113.9	6.89	0.956	13.45	1.43
TG3-1	0.51	-13.9	6.91	1.018	13.85	3.25
TG3-2	0.02	-136.9	7.25	0.848	13.78	1.91
TG3-3	0.00	-123.1	6.96	0.957	13.13	4.2
TG4-1	0.07	-82.8	7.01	0.996	14.01	1.46
TG4-2	0.26	-125.9	7.14	1.081	13.43	0.94
TG4-3	0.34	-95.5	7.05	1.065	13.05	4.23
TG5-1	0.39	-59	6.94	0.839	14.23	1.98
TG5-2	0.58	-125.6	7.09	0.835	13.41	1.98
TG5-3	0.18	-79.9	7.23	0.798	13.86	0.56
TG6-1	0.14	-109.9	7.09	0.963	14.15	0.28
TG6-2	0.22	-7.4	6.60	1.353	12.4	3.87
TG6-3	0.62	-59.8	6.65	1.235	13.38	1.23

Notes:

S - Shallow well.

TG - Treatment gate performance monitoring well.

NM - Not measured due to presence of a sheen or free product in well.

uohm/cm - microohms per centimeter

Deg C - Degrees Celcius

mV - millivolt

mg/L - milligram per liter

NTU - Nephelometric Turbidity unit

Table 2-5

**Groundwater Sample Analytical Results  
Shallow Monitoring Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Second Quarter 2006**

Sample ID	MA3-MW5S-062606-2	MA3-MW6S-062706-7	MA3-MW7S-062706-16	MA3-MW9S-062706-6	WDNR PAL (ug/L)	WDNR ES (ug/L)	
Well ID	MW-5S	MW-6S	MW-7S	MW-9S			
Matrix	Groundwater	Groundwater	Groundwater	Groundwater			
Date	6/26/2006	6/27/2006	6/27/2006	6/27/2006			
Units	ug/l	ug/l	ug/l	ug/l			
<b>VOCs</b>							
Benzene	0.2 U	0.2 U	1.2	0.2 U	0.5	5	
Ethylbenzene	0.2 U	0.2 U	11	0.2 U	140	700	
Toluene	0.2 U	0.2 U	0.2 J	0.2 U	68.6	343	
Total Xylenes	0.6 U	0.6 U	12	0.6 U	124	650	
<b>PAHs</b>							
Acenaphthene	0.94 U	0.93 U	22	0.95 U	NA	NA	
Acenaphthylene	1.5 U	1.5 U	20 U	1.5 U	NA	NA	
Anthracene	0.042 U	0.041 U	0.042 U	0.042 U	600	3000	
Benzo(a)anthracene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA	
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.021 U	0.02	0.2	
Benzo(b)fluoranthene	0.042 U	0.041 U	0.042 U	0.042 U	0.02	0.2	
Benzo(g,h,i)perylene	0.1 U	0.1 U	0.10 U	0.11 U	NA	NA	
Benzo(k)fluoranthene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA	
Chrysene	0.084 U	0.083 U	0.084 U	0.084 U	0.02	0.2	
Dibenz(a,h)anthracene	0.042 U	0.041 U	0.042 U	0.042 U	NA	NA	
Fluoranthene	0.042 U	0.041 U	0.042 U	0.042 U	80	400	
Fluorene	0.52 U	0.52 U	4.1	0.53 U	80	400	
Indeno(1,2,3-cd)pyrene	0.084 U	0.083 U	0.084 U	0.084 U	NA	NA	
Naphthalene	1.4 U	1.3 U	12 J	1.4 U	8	40	
Phenanthrene	0.084 U	0.083 U	0.084 U	0.084 U	NA	NA	
Pyrene	0.19 U	0.19 U	0.19 U	0.19 U	50	250	

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

**Groundwater Sample Analytical Results  
Containment Monitoring Well Samples**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Sample ID	MA3-MW27S-062706-1	MA3-MW27S-062706-2-DP	MA3-MW28S-062706-12	MA3-MW29S-062706-9	MA3-MW30S-062806-1	MA3-MW31S-062706-8	MA3-MW32S-062706-3	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-27S	MW-27S	MW-28S	MW-29S	MW-30S	MW-31S	MW-32S		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Date	6/27/2006	6/27/2006	6/27/2006	6/27/2006	6/26/2006	6/27/2006	6/27/2006		
Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
<b>VOCs</b>									
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethybenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	650
<b>PAHs</b>									
Acenaphthene	0.96 U	0.96 U	0.96 U	0.97 U	0.93 U	0.94 U	1.0 U	NA	NA
Acenaphthylene	1.5 U	1.5 U	1.5 U	1.5 U	1.4 U	1.5 U	1.6 U	NA	NA
Anthracene	0.043 U	0.043 U	0.043 U	0.043 U	0.041 U	0.042 U	0.044 U	600	3000
Benzof(a)anthracene	0.021 U	0.021 U	0.021 U	0.022 U	0.021 U	0.021 U	0.022 U	NA	NA
Benz(o)pyrene	0.021 U	0.021 U	0.021 U	0.022 U	0.021 U	0.021 U	0.022 U	0.02	0.2
Benz(b)fluoranthene	0.043 U	0.043 U	0.043 U	0.043 U	0.041 U	0.042 U	0.044 U	0.02	0.2
Benz(g,h,i)perylene	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.11 U	NA	NA
Benz(k)fluoranthene	0.021 U	0.021 U	0.021 U	0.022 U	0.021 U	0.021 U	0.022 U	NA	NA
Chrysene	0.085 U	0.085 U	0.086 U	0.086 U	0.082 U	0.083 U	0.089 U	0.02	0.2
Dibenz(a,h)anthracene	0.043 U	0.043 U	0.043 U	0.043 U	0.041 U	0.042 U	0.044 U	NA	NA
Fluoranthene	0.043 U	0.043 U	0.043 U	0.043 U	0.041 U	0.042 U	0.044 U	80	400
Fluorene	0.53 U	0.53 U	0.54 U	0.54 U	0.51 U	0.52 U	0.56 U	80	400
Indeno(1,2,3-cd)pyrene	0.085 U	0.085 U	0.086 U	0.086 U	0.082 U	0.083 U	0.089 U	NA	NA
Naphthalene	1.4 U	1.4 U	1.4 U	1.4 U	1.3 U	1.4 U	1.4 U	8	40
Phenanthrene	0.085 U	0.085 U	0.086 U	0.086 U	0.082 U	0.083 U	0.089 U	NA	NA
Pyrene	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	50	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

**Groundwater Sample Analytical Results**  
**Containment Monitoring Well Samples**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Sample ID	MA3-MW33S-062706-5	MA3-MW34S-062706-15	MA3-MW35S-062706-13	MA3-MW35S-062706-14-DP	MA3-MW36S-062706-11	MA3-MW37S-062706-10	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	<b>MW-33S</b>	<b>MW-34S</b>	<b>MW-35S</b>	<b>MW-35S</b>	<b>MW-36S</b>	<b>MW-37S</b>		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Date	6/27/2006	6/27/2006	6/27/2006	6/27/2006	6/27/2006	6/27/2006		
Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs								
Benzene	0.2 U	6.9 J	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	1.9	25	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	70	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs								
Acenaphthene	100	200	0.97 U	0.95 U	0.96 U	0.96 U	NA	NA
Acenaphthylene	30 U	130 U	1.5 U	1.5 U	1.5 U	1.5 U	NA	NA
Anthracene	0.16 J	9.6	0.043 U	0.042 U	0.043 U	0.042 U	600	3000
Benz(a)anthracene	0.021 U	0.73	0.022 U	0.021 U	0.021 U	0.021 U	NA	NA
Benz(a)pyrene	0.021 U	0.18	0.022 U	0.021 U	0.021 U	0.021 U	0.02	0.2
Benz(b)fluoranthene	0.043 U	0.13 J	0.043 U	0.042 U	0.043 U	0.042 U	0.02	0.2
Benz(a,h,i)perylene	0.11 U	0.10 U	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA
Benz(k)fluoranthene	0.021 U	0.084 J	0.022 U	0.021 U	0.021 U	0.021 U	NA	NA
Chrysene	0.086 U	0.62	0.086 U	0.085 U	0.085 U	0.085 U	0.02	0.2
Dibenz(a,h)anthracene	0.043 U	0.042 U	0.043 U	0.042 U	0.043 U	0.042 U	NA	NA
Fluoranthene	0.043 U	14	0.66	0.65	0.043 U	0.042 U	80	400
Fluorene	38	110	0.54 U	0.53 U	0.53 U	0.53 U	80	400
Indeno(1,2,3-cd)pyrene	0.086 U	0.084 U	0.086 U	0.085 U	0.085 U	0.085 U	NA	NA
Naphthalene	7.1 J	6800	1.4 U	1.4 U	1.4 U	1.4 U	8	40
Phenanthrene	6.3	120	0.086 U	0.085 U	0.085 U	0.085 U	NA	NA
Pyrene	0.19 U	9.0	0.40 J	0.40 J	0.19 U	0.19 U	50	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

**Groundwater Sample Analytical Results**  
**Treatment Performance Monitoring Well Samples**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Sample ID	MA3-TG1-1-062806-16	MA3-TG1-2-062806-17	MA3-TG1-3-062806-18	MA3-TG2-1-062806-13	MA3-TG2-2-062806-14	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG1-1	TG1-2	TG1-3	TG2-1	TG2-2		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Date	6/28/2006	6/28/2006	6/28/2006	6/28/2006	6/28/2006		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs							
Benzene	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	8.4	0.2 J	0.2 U	0.2 U	0.2 U	140	700
Toluene	1 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	13 J	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs							
Acenaphthene	250 U	39 J	2.5 J	1.0 U	0.99 U	NA	NA
Acenaphthylene	48	1.6 UJ	1.4 UJ	1.6 U	1.5 U	NA	NA
Anthracene	25	1.3 J	0.063 J	0.045 U	0.044 U	600	3000
Benzo(a)anthracene	15	0.061 J	0.021 UJ	0.023 U	0.022 U	NA	NA
Benzo(a)pyrene	5.6 J	0.033 J	0.021 UJ	0.023 UJ	0.022 UJ	0.02	0.2
Benzo(b)fluoranthene	5.6	0.044 UJ	0.041 UJ	0.045 U	0.044 U	0.02	0.2
Benzo(g,h,i)perylene	2.3	0.11 UJ	0.10 UJ	0.11 U	0.11 U	NA	NA
Benzo(k)fluoranthene	3.1	0.022 UJ	0.021 UJ	0.023 U	0.022 U	NA	NA
Chrysene	12 J	0.089 UJ	0.082 UJ	0.090 U	0.088 U	0.02	0.2
Dibenz(a,h)anthracene	0.043 U	0.044 UJ	0.041 UJ	0.045 U	0.044 U	NA	NA
Fluoranthene	94	2.0 J	0.24 J	0.045 U	0.046 J	80	400
Fluorene	160 J	19 J	0.69 J	0.56 UJ	0.55 UJ	80	400
Indeno(1,2,3-cd)pyrene	3.2	0.089 UJ	0.082 UJ	0.090 U	0.088 U	NA	NA
Naphthalene	1100 J	55 J	1.3 UJ	1.5 U	1.4 U	8	40
Phenanthrene	260	8.7 J	0.082 UJ	0.09 U	0.088 U	NA	NA
Pyrene	73	1.3 J	0.19 UJ	0.20 U	0.20 U	50	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

**Groundwater Sample Analytical Results**  
**Treatment Performance Monitoring Well Samples**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Sample ID	MA3-TG2-3-062806-15	MA3-TG3-1-062806-10	MA3-TG3-2-062806-11	MA3-TG3-3-062806-12	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG2-3	TG3-1	TG3-2	TG3-3		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater		
Date	6/28/2006	6/28/2006	6/28/2006	6/28/2006		
Units	ug/l	ug/l	ug/l	ug/l		
VOCs						
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs						
Acenaphthene	1.0 U	0.95 U	1.1 U	1.0 U	NA	NA
Acenaphthylene	1.6 U	1.5 U	1.8 U	1.6 U	NA	NA
Anthracene	0.045 U	0.042 U	0.050 U	0.045 U	600	3000
Benzo(a)anthracene	0.022 U	0.021 U	0.025 U	0.023 U	NA	NA
Benzo(a)pyrene	0.022 UJ	0.021 UJ	0.025 UJ	0.023 UJ	0.02	0.2
Benzo(b)fluoranthene	0.045 U	0.042 U	0.050 U	0.045 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.13 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.022 U	0.021 U	0.025 U	0.023 U	NA	NA
Chrysene	0.089 U	0.084 U	0.10 U	0.091 U	0.02	0.2
Dibenz(a,h)anthracene	0.045 U	0.042 U	0.050 U	0.045 U	NA	NA
Fluoranthene	0.045 U	0.042 U	0.050 U	0.064 J	80	400
Fluorene	0.56 UJ	0.53 UJ	0.63 UJ	0.57 UJ	80	400
Indeno(1,2,3-cd)pyrene	0.089 U	0.084 U	0.10 U	0.091 U	NA	NA
Naphthalene	1.4 U	1.4 U	1.6 U	1.5 U	8	40
Phenanthrene	0.089 U	0.084 U	0.10 U	0.091 U	NA	NA
Pyrene	0.20 U	0.19 U	0.23 U	0.20 U	50	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

**Groundwater Sample Analytical Results**  
**Treatment Performance Monitoring Well Samples**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Sample ID	MA3-TG4-1-062806-7	MA3-TG4-2-062806-8	MA3-TG4-3-062806-9	MA3-TG4-3-062806-9-DF	MA3-TG5-1-062806-1	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG4-1	TG4-2	TG4-3	TG4-3	TG5-1		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Date	6/28/2006	6/28/2006	6/28/2006	6/28/2006	6/28/2006		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs							
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs							
Acenaphthene	0.98 U	1.1 U	1.0 U	0.96 U	0.96 U	NA	NA
Acenaphthylene	1.5 U	1.8 U	1.6 U	1.5 U	1.5 U	NA	NA
Anthracene	0.044 U	0.050 U	0.044 U	0.043 U	0.043 U	600	3000
Benzo(a)anthracene	0.022 U	0.025 U	0.022 U	0.021 U	0.021 U	NA	NA
Benzo(a)pyrene	0.022 UJ	0.025 UJ	0.022 UJ	0.021 UJ	0.021 UJ	0.02	0.2
Benzo(b)fluoranthene	0.044 U	0.050 U	0.044 U	0.043 U	0.043 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.13 U	0.11 U	0.11 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.022 U	0.025 U	0.022 U	0.021 U	0.021 U	NA	NA
Chrysene	0.087 U	0.10 U	0.089 U	0.086 U	0.085 U	0.02	0.2
Dibenz(a,h)anthracene	0.044 U	0.050 U	0.044 U	0.043 U	0.043 U	NA	NA
Fluoranthene	0.044 U	0.23 J	0.044 U	0.043 U	0.043 U	80	400
Fluorene	0.54 UJ	0.63 UJ	0.55 UJ	0.54 UJ	0.53 UJ	80	400
Indeno(1,2,3-cd)pyrene	0.087 U	0.10 U	0.089 U	0.086 U	0.085 U	NA	NA
Naphthalene	1.4 U	1.6 U	1.4 U	1.4 U	1.4 U	8	40
Phenanthrene	0.087 U	0.10 U	0.089 U	0.086 U	0.085 U	NA	NA
Pyrene	0.20 U	0.23 U	0.20 U	0.19 U	0.19 U	50	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

**Groundwater Sample Analytical Results**  
**Treatment Performance Monitoring Well Samples**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Sample ID	MA3-TG5-2-062806-2	MA3-TG5-3-062806-3	MA3-TG6-1-062806-4	MA3-TG6-2-062806-5	MA3-TG6-3-062806-6	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG5-2	TG5-3	TG6-1	TG6-2	TG6-3		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Date	6/28/2006	6/28/2006	6/28/2006	6/28/2006	6/28/2006		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
<b>VOCs</b>							
Benzene	0.2 U	0.5	5				
Ethylbenzene	0.2 U	140	700				
Toluene	0.2 U	68.6	343				
Total Xylenes	0.6 U	124	650				
<b>PAHs</b>							
Acenaphthene	1.0 U	1.4 U	1.0 U	0.98 U	1.2 U	NA	NA
Acenaphthylene	1.6 U	2.2 U	1.6 U	1.5 U	1.8 U	NA	NA
Anthracene	0.045 U	0.064 U	0.045 U	0.043 U	0.053 U	600	3000
Benz(a)anthracene	0.022 U	0.032 U	0.022 U	0.072 J	0.026 U	NA	NA
Benz(a)pyrene	0.022 UJ	0.032 UJ	0.022 UJ	0.079 J	0.026 UJ	0.02	0.2
Benz(b)fluoranthene	0.045 U	0.064 U	0.045 U	0.075 J	0.053 U	0.02	0.2
Benz(g,h,i)perylene	0.11 U	0.16 U	0.11 U	0.11 U	0.13 U	NA	NA
Benz(k)fluoranthene	0.022 U	0.032 U	0.022 U	0.031 J	0.026 U	NA	NA
Chrysene	0.090 U	0.13 U	0.089 U	0.087 U	0.11 U	0.02	0.2
Dibenz(a,h)anthracene	0.045 U	0.064 U	0.045 U	0.043 U	0.053 U	NA	NA
Fluoranthene	0.062 J	0.064 U	0.045 U	0.32	0.068 J	80	400
Fluorene	0.56 UJ	0.80 UJ	0.56 UJ	0.54 UJ	0.66 UJ	80	400
Indeno(1,2,3-cd)pyrene	0.090 U	0.13 U	0.089 U	0.087 U	0.11 U	NA	NA
Naphthalene	1.5 U	2.1 U	1.4 U	1.4 U	1.7 U	8	40
Phenanthrene	0.090 U	0.13 U	0.089 U	0.087 U	0.11 U	NA	NA
Pyrene	0.20 U	0.29 U	0.20 U	0.29 J	0.24 U	50	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

**Groundwater Sample Analytical Results**  
**Field Blank and Trip Blank Samples**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Sample ID	MA3-FB-062706-1	MA3-FB-062706-2	MA3-FB-062806-19	MA3-TB	MA3-TB-062806-2	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	Field Blank	Field Blank	Field Blank	Trip Blank	Trip Blank		
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Date	6/27/2006	6/27/2006	6/28/2006	6/27/2006	6/28/2006		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
<b>VOCs</b>							
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	650
<b>PAHs</b>							
Acenaphthene	1 U	0.99 U	0.96 U	--	--	NA	NA
Acenaphthylene	1.6 U	1.5 U	1.5 U	--	--	NA	NA
Anthracene	0.045 U	0.044 U	0.043 U	--	--	600	3000
Benzo(a)anthracene	0.023 U	0.022 U	0.021 U	--	--	NA	NA
Benzo(a)pyrene	0.023 U	0.022 U	0.021 UJ	--	--	0.02	0.2
Benzo(b)fluoranthene	0.045 U	0.044 U	0.043 U	--	--	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.11 U	--	--	NA	NA
Benzo(k)fluoranthene	0.023 U	0.022 U	0.021 U	--	--	NA	NA
Chrysene	0.091 U	0.088 U	0.085 U	--	--	0.02	0.2
Dibenz(a,b)anthracene	0.045 U	0.044 U	0.043 U	--	--	NA	NA
Fluoranthene	0.045 U	0.044 U	0.043 U	--	--	80	400
Fluorene	0.57 U	0.55 U	0.53 UJ	--	--	80	400
Indeno(1,2,3-cd)pyrene	0.091 U	0.088 U	0.085 U	--	--	NA	NA
Naphthalene	1.5 U	1.4 U	1.4 U	--	--	8	40
Phenanthrene	0.091 U	0.088 U	0.085 U	--	--	NA	NA
Pyrene	0.2 U	0.2 U	0.19 U	--	--	50	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

VOC-Volatile Organic Compound.

PAH-Polynuclear Aromatic Hydrocarbon.

PAL-Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES-Enforcement Standard (WDNR).

NA-Not Applicable. PAL or ES not available for this parameter.

Bolded values indicate concentration exceeding PAL.

Shaded and bolded values indicate concentration exceeding PAL and ES.

**Table 2-6**

**Concentration Trends in Groundwater Monitoring Wells**  
**Third Quarter 2003 through Second Quarter 2006**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

	MW-7S	MW-32S	MW-33S	MW-34S	MW-35S	TG1-1
<b>Benzene (ug/L)</b>						
Third Quarter (September '03)	10 U	0.2 U	0.3 J	10 U	0.2 U	2 U
Fourth Quarter (December '03)	2.3 J	0.2 U	0.2 U	6.6	0.2 U	1 U
First Quarter (March '04)	4 U	0.2 U	4 J	5.7 J	0.2 U	1.5
Second Quarter (June '04)	2 U	0.2 U	1 U	7.8 J	0.2 U	1 U
Third Quarter (September '04)	2.2 J	0.2 U	1 U	7.1 J	0.2 U	2 U
Fourth Quarter (December '04)	8.6	0.2 U	0.2 U	7.2 J	0.2 U	0.5 J
First Quarter (March '05)	2.9 J	0.2 U	0.2 U	6.2 J	0.2 U	1 U
Second Quarter (June '05)	1.6 J	0.2 U	0.2 U	6 J	0.2 U	1 U
Third Quarter (September '05)	1.8	0.2 U	0.2 U	7.3	0.2 U	0.8 J
Fourth Quarter (December '05)	1.7 J	0.2 U	0.2 U	5.0 J	0.2 U	1.0 U
First Quarter (March '06)	2.0 U	0.2 U	0.2 U	7.4 J	0.2 U	0.6 J
Second Quarter (June '06)	0.2 U	0.2 U	0.2 U	6.9 J	0.2 U	1.0 U
<b>Naphthalene (ug/L)</b>						
Third Quarter (September '03)	3,800	1.3 U	2,600	5,000	1.2 U	5,800
Fourth Quarter (December '03)	3,000	1.4 U	58 J	6,500 J	1.3 U	1,500
First Quarter (March '04)	2,500	1.4 UJ	660 J	7,400	1.4 U	2,200
Second Quarter (June '04)	2,700	1.6 U	600	6,800	1.5 U	1,500
Third Quarter (September '04)	2,700	1.6 U	970	11,000 J	1.7 U	3,200
Fourth Quarter (December '04)	1,600	1.5 U	140	5,700	1.5 U	1,600
First Quarter (March '05)	1,600	1.6 U	170	6,000	1.6 U	5,400
Second Quarter (June '05)	1,700	1.7 U	240	7,600	1.6 U	1,500
Third Quarter (September '05)	1,900	1.7 U	290	6,900	1.7 U	4,000
Fourth Quarter (December '05)	1,000	1.8 U	27	4,400 J	1.7 U	4,300
First Quarter (March '06)	1,000	1.5 U	1.7 U	6,400	2.0 J	3,200
Second Quarter (June '06)	1.4 U	1.4 U	7.1 J	6500	1.4 U	1,100

**Table 2-6 (Continued)**

**Concentration Trends in Groundwater Monitoring Wells**  
**Third Quarter 2003 through Second Quarter 2006**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

	MW-7S	MW-32S	MW-33S	MW-34S	MW-35S	TG1-1
<b>Fluorene (ug/L)</b>						
Third Quarter (September '03)	11	0.19 U	88	86	0.18 U	2,400
Fourth Quarter (December '03)	8	0.18 U	0.84 J	180 J	0.17 U	150
First Quarter (March '04)	7	0.18 UJ	13	470	0.21 J	160
Second Quarter (June '04)	6.9	0.17 U	19	280	0.19 J	150
Third Quarter (September '04)	7.8	0.18 U	59	2,100 J	1.3	800
Fourth Quarter (December '04)	7.5	0.17 U	6.9	99	0.39 J	420
First Quarter (March '05)	6.5	0.18	9.1	370	0.18 U	2,500
Second Quarter (June '05)	6.3	0.52 U	48	640	0.5 U	320
Third Quarter (September '05)	5.8	0.53 U	56	440	0.53 U	1,100
Fourth Quarter (December '05)	4.2	0.56 U	3.0	94 J	0.52 U	2,100
First Quarter (March '06)	4.0	0.48 U	1.2	93	0.50 U	750
Second Quarter (June '06)	0.53 U	0.56 U	38	110	0.54 U	160 J
<b>Benzo(a)pyrene (ug/L)</b>						
Third Quarter (September '03)	0.022 U	0.29 J	0.021 U	0.047 J	0.02 U	190
Fourth Quarter (December '03)	0.019 U	0.02 U	0.02 U	5.9 J	0.028 J	5.9
First Quarter (March '04)	0.019 U	0.02 UJ	0.02 UJ	29	0.02 U	6.2
Second Quarter (June '04)	0.019 U	0.019 U	0.019 U	17	0.022 J	5.1
Third Quarter (September '04)	0.02 U	0.02 U	0.021 U	140 J	0.021 U	56
Fourth Quarter (December '04)	0.019 U	0.019 U	0.02 U	0.15	0.019 U	33
First Quarter (March '05)	0.02 U	0.02 U	0.019 U	21	0.02 U	200
Second Quarter (June '05)	0.024 J	0.021 U	0.021 U	42	0.02 U	21
Third Quarter (September '05)	0.021 U	0.021 U	0.021 U	23	0.021 U	91
Fourth Quarter (December '05)	0.021 U	0.022 U	0.024 U	0.55 J	0.021 U	180
First Quarter (March '06)	0.020 U	0.019 U	0.021 U	0.24	0.020 U	63
Second Quarter (June '06)	0.021 U	0.022 U	0.021 U	0.18	0.022 U	5.6 J

U - Constituent not detected. Detection limit indicated.

J - Estimated concentration.

ug/L - Micrograms per liter.

**Table 2-7**  
**Groundwater Sample Analytical Results**  
**Treatment Performance Monitoring Wells- Nutrient and Biological Parameters**  
**Moss-American Site**  
**Milwaukee, Wisconsin**  
**Second Quarter 2006**

Parameter (mg/l)	Sample Identification					
	TG1-1	TG1-2	TG1-3	TG2-1	TG2-2	TG2-3
Nitrogen (Kjeldahl)	0.63 J	1.5	1.6	0.50 U	0.53 J	1.5
Nitrite Nitrogen	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Nitrate Nitrogen	0.04 U	0.066 J	0.040 UJ	0.040 UJ	0.058 J	0.040 UJ
Ammonia Nitrogen	0.85	1.3	1.7	0.27 J	0.48 J	1.6
Ortho-Phosphate as P	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Biochemical oxygen demand	4.5 U	5.3 U	3.2 U	1.5 U	1.7 U	4.7 U
Total Organic Carbon	7.8	9.7	10.1	2.2	2.5	10.9
Total Phosphorus as PO <sub>4</sub>	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chemical oxygen demand	33.3	32.9	30.2	9.5	8.7	31.7
Degrader Microbial Population (mean) (CFU/ml)	710	100 U	100 U	100 U	100 U	720
Total Microbial Population (mean) (CFU/ml)	4000	71000	85000	1100	280	45000

Parameter (mg/l)	Sample Identification					
	TG3-1	TG3-2	TG3-3	TG4-1	TG4-2	TG4-3
Nitrogen (Kjeldahl)	0.72 J	0.94 J	1.6	1.0	0.85 J-	0.94 J-
Nitrite Nitrogen	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Nitrate Nitrogen	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ
Ammonia Nitrogen	0.20 U	0.81	2.0	0.72	0.85	1.1
Ortho-Phosphate as P	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Biochemical oxygen demand	1.8 U	2.4 U	12.7	1.9 U	2.8 U	2.3 U
Total Organic Carbon	9.4	8.6	9.9	9.2	10.3	10.3
Total Phosphorus as PO <sub>4</sub>	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chemical oxygen demand	26.2	24.2	28.6	24.9	28.9	30.4
Degrader Microbial Population (mean) (CFU/ml)	130	920	240	200	2400	2000
Total Microbial Population (mean) (CFU/ml)	1600	1100	17000	4400	2200	5000

Parameter (mg/l)	Sample Identification					
	TG5-1	TG5-2	TG5-3	TG6-1	TG6-2	TG6-3
Nitrogen (Kjeldahl)	0.50 U	0.50 U	0.50 U	1.9	0.80 J	0.73 J
Nitrite Nitrogen	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Nitrate Nitrogen	0.040 UJ	0.040 U	0.040 UJ	0.040 UJ	0.040 UJ	0.040 U
Ammonia Nitrogen	0.20 U	0.77	0.77	2.0	0.77	0.89
Ortho-Phosphate as P	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Biochemical oxygen demand	1.8 U	2.3 U	2.1 U	3.3 U	2.1 U	2.0 U
Total Organic Carbon	3.9	6.2	5.6	8.6	8.4	7.6
Total Phosphorus as PO <sub>4</sub>	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chemical oxygen demand	12.3	16.1	16.2	23.7	27.7	21.7
Degrader Microbial Population (mean) (CFU/ml)	100 U	1100	100 U	12000	1800	320
Total Microbial Population (mean) (CFU/ml)	1100	820	620	44000	89000	250

U-Constituent not detected. Detection limit indicated.

J-Estimated concentration.

## SECTION 3

### EVALUATION OF PILOT SCALE OPERATIONS

Augmentation of the groundwater treatment system was initiated in October 2000 by injecting air at the treatment gates. In late June 2001, nutrient addition was initiated at TG1 using a solution containing potassium nitrate ( $KNO_3$ ) and potassium phosphate ( $KHPO_4$ ). System modifications were proposed in the Q2 2002 Quarterly Groundwater Treatment Performance Monitoring Report and are discussed in this section. Information regarding system performance is also presented.

#### 3.1 DISSOLVED OXYGEN

During Q2 2006, the DO concentrations in most all of the wells remained below 2.0 mg/L. Three of the readings found DO concentrations above 2.0 mg/L.

N- $NO_3$  was only detected in two treatment performance wells sampled in Q2 2006 and N- $NO_2$  was not detected. This indicates that nitrogen is primarily present in its reduced state, and a reducing environment exists in the wells. Nitrogen data were not collected for the shallow monitoring wells.

Well packers were installed in the TG5 injection wells in June 2000; however, no discernable change in the DO levels were observed in the TG5 wells until Q1 and Q2 2003. TRONOX/WESTON attempted to install inflatable bladder packers in TG1 and TG2 injection wells in August 2001. However, the packers could not be properly installed due to the injection well configuration.

TRONOX/WESTON will continue to evaluate alternatives for air introduction into the treatment gates.

### **3.2 NUTRIENTS AND pH**

Nutrient injection was discontinued at gate area TG1 as a part of the site modifications recommended in the Q2 2002 Monitoring Report. This took place at the end of October 2002, after the Agencies granted approval. However, nutrient and contaminant levels will continue to be monitored.

Recommended guidelines for bioremediation of contaminants in site groundwater include a pH range of 6.5 to 8.5 S.U. and a minimum carbon-nitrogen-phosphorous (C:N:P) ratio of 100:14:1. The range of pH values measured in the treatment performance monitoring wells (6.6 to 7.25 S.U.) is sufficient to facilitate biological activity.

Table 3-1 contains calculated C:N:P ratios for each of the treatment performance monitoring wells. During Q2 2006, the treatment performance monitoring wells did not exhibit the desired C:N:P ratio of 100:14:1. Nitrogen and phosphorous appear to be the limiting nutrients at the site.

### **3.3 BACTERIAL POPULATIONS**

Total bacterial counts, in general, were found to have increased from Q1 2006 levels in most of the performance monitoring wells. Decreases or steady total bacterial counts were found in TG4-2 and TG6-1. Degrader bacterial counts in the performance monitoring wells were generally found to increase in most wells during Q2 2006 when compared to Q1 2006.

Figure 3-1 compares the degrader populations in TG1 and TG2 since Q1 2001. As indicated in Figure 3-1, there was a trend of general decrease in the degrader bacterial population levels in TG1 and TG2 from Q1 2001 to Q2 2004. It is uncertain what the cause of this bacterial decrease at the site was. With the exception of the Q1 2006 results, the degrader populations appear to be increasing over the last seven quarters.

### **3.4 HYDROGEOLOGY**

TRONOX/WESTON identified a potential concern associated with the site hydrogeology in the Q2 2001 Monitoring Report. This concern is primarily based on the premise that low flow conditions may cause anoxic conditions and may inhibit TRONOX/WESTON's ability to introduce nutrients and other additives at an optimum level due to poor dispersion from the injection point. Low flow conditions are apparent based on the hydraulic gradient and flow velocities derived. A low flow velocity may be indirectly beneficial as a longer residence time in the treatment gate may allow for more effective biodegradation. No significant change was observed in relation to site hydrogeology during Q2 2006.

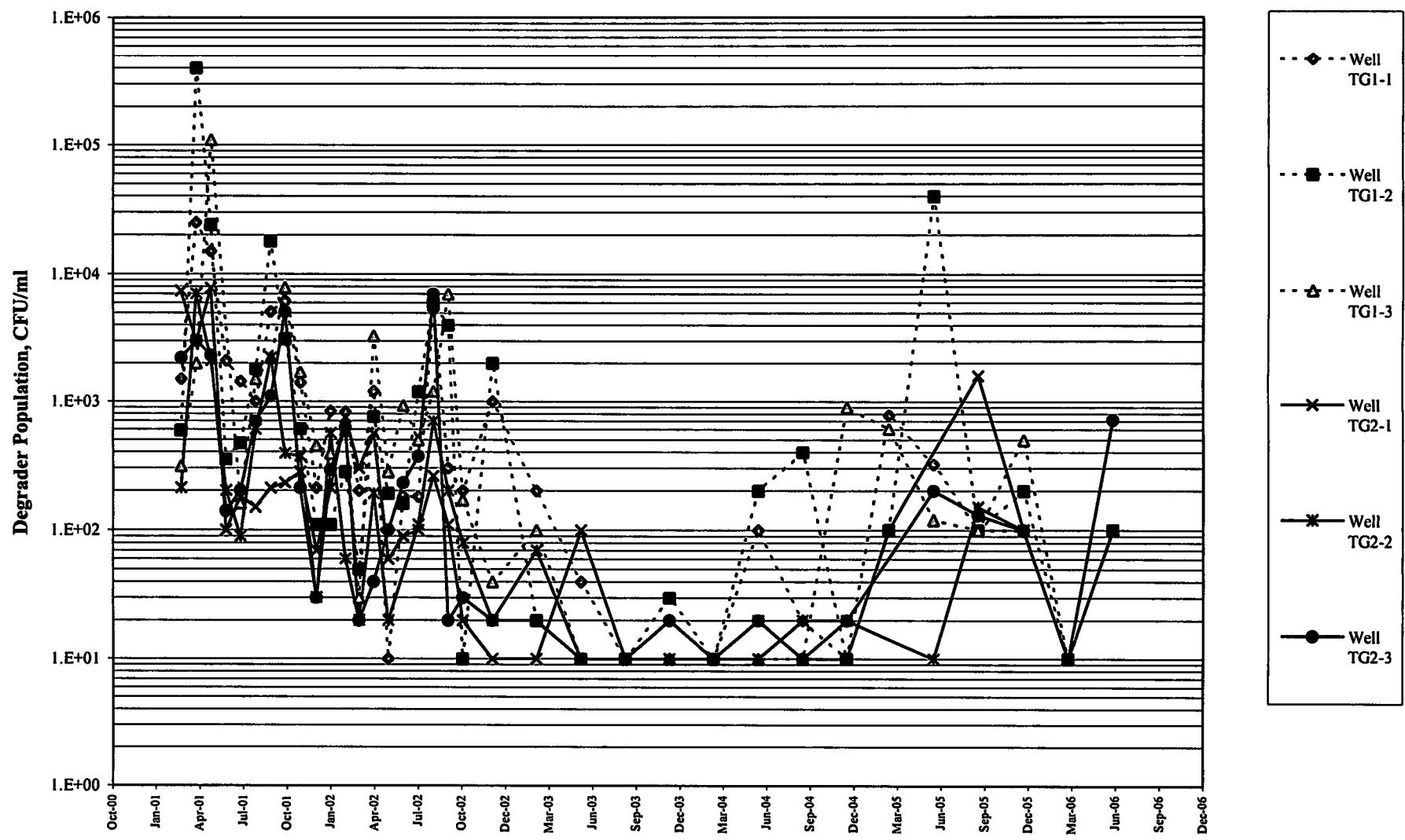
### **3.5 SITE MODIFICATIONS**

Per the Q2 2002 Monitoring Report recommendations, modifications have been made to the system at the site. In October 2002, the performance monitoring well sampling frequency and scope reductions went into effect following the Agencies' approval. Groundwater sampling was revised to a quarterly sampling regime instead of a monthly sampling regime. In addition, shallow monitoring wells MW-3S, MW-10S, MW-13S, MW-20S, MW-25S, and MW-26S, and intermediate wells MW-3I, MW-7I, MW-9I, and MW-20I were removed from the groundwater monitoring program. However, these wells were not abandoned, per WDNR's request, with the exception of MW-20S and MW-20I abandoned during LMR diversion. Water levels will continue to be gathered from these wells on a quarterly basis to assist with the production of the groundwater elevation contour map. Discontinuation of nutrient injection at gate TG1 was also approved and was implemented in October 2002.

The hydrogeologic investigation proposed in the Q2 2002 Monitoring Report took place in December 2002. This work included the installation of nine piezometers (PZ-01 thru PZ-07, PZ-09, and PZ-10) as well as a staff gauge (SG-1). Records were updated with this information, and used to prepare the groundwater elevation contour map for this quarter.

**Figure 3-1**

**Comparison of Degrader Populations in Treatment Gates 1 and 2 since Q1 2001**  
**Moss-American Site**  
**Milwaukee, Wisconsin**



Note: Laboratory detection limit is shown where degrader population was not detected at or above the detection limit.

**Table 3-1**

**Calculation of Carbon:Nitrogen:Phosphorous Ratios  
Treatment Performance Monitoring Wells  
Moss-American Site  
Milwaukee, Wisconsin  
Second Quarter 2006**

Well	Carbon <sup>1</sup> , mg/L	Total Nitrogen <sup>2</sup> , mg/L	Phosphorous <sup>3</sup> , mg/L	C-N-P Ratio (100-14-1 desired)		
TG1-1	7.8	0.85	ND	100	11	0
TG1-2	9.7	1.366	ND	100	14	0
TG1-3	10.1	1.7	ND	100	17	0
TG2-1	2.2	0.27	ND	100	12	0
TG2-2	2.5	0.538	ND	100	22	0
TG2-3	10.9	1.6	ND	100	15	0
TG3-1	9.4	ND	ND	100	0	0
TG3-2	8.6	0.81	ND	100	9	0
TG3-3	9.9	2	ND	100	20	0
TG4-1	9.2	0.72	ND	100	8	0
TG4-2	10.3	0.85	ND	100	8	0
TG4-3	10.3	1.1	ND	100	11	0
TG5-1	3.9	ND	ND	100	0	0
TG5-2	6.2	0.77	ND	100	12	0
TG5-3	5.6	0.77	ND	100	14	0
TG6-1	8.6	2	ND	100	23	0
TG6-2	8.4	0.77	ND	100	9	0
TG6-3	7.6	0.89	ND	100	12	0
Site Average	7.84	1.06	ND	100	12.1	0

1 - Carbon measured as Total Organic Carbon (non-purgable).

2 - Nitrogen measured as NH<sub>3</sub>-N, NO<sub>2</sub>-N, and NO<sub>3</sub>-N.

3 - Phosphorous measured as phosphate (PO<sub>4</sub>-P).

ND - Constituent not detected.

--- Not available

Shaded values indicate values at or above desired quantity.

**SECTION 4**  
**REFERENCES**

Weston Solutions, Inc. (WESTON). 1999. *Quality Assurance Project Plan for Installation of Groundwater Remedial System*. October 1999.

WESTON. 2001. *Quality Assurance Project Plan for Installation of Groundwater Remedial System Addendum No.1*. May 2001.

## **APPENDIX A**

### **June 2006 Groundwater Sample Analytical Results**



I have reviewed the analytical data provided by Lancaster Laboratories for the Moss American Site in Milwaukee, Wisconsin upon the information that was provided by the laboratory.

**Polynuclear Aromatic Hydrocarbons (PAHs by HPLC, U.S. EPA Method 8310)**  
**SDG # KMA82**

**1. Samples:**

Client Sample <u>Description:</u>	Lab Sample <u>Number</u>	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-FB-062706-01	4803886	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-FB-062706-02	4803887	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW27S-062706-1	4803888	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW27S-062706-2-DP	4803889	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW28S-062706-12	4803890	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW29S-062706-9	4803891	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW30S-062606-1	4803892	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW31S-062706-8	4803893	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW32S-062706-3-BKG	4803895	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW32S-062706-4-MS	4803896	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW32S-062706-4-MSD	4803897	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW33S-062706-5	4803898	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW34S-062706-15	4803899	Grab G-water	06/27/06	06/30/06	7/7, 11 & 13
MA3-MW35S-062706-13	4803900	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW35S-062706-14-DP	4803901	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW36S-062706-11	4803902	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW37S-062706-10	4803903	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW5S-062606-2	4803904	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW6S-062706-7	4803905	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW7S-062706-16	4803906	Grab G-water	06/27/06	06/30/06	07/07/06
MA3-MW9S-062706-6	4803907	Grab G-water	06/27/06	06/30/06	07/07/06

**2. Holding Times:**

The samples were extracted and analyzed within the required holding times.

**3. Method Blank:**

Two methods blanks were associated with this SDG. The method blank SBLWKW1802 was analyzed with 07/07/06 with samples 4803886 thru 4803893, 4803895 thru 4803907, 4803899DL1 and 4803899DL2 and results were free of contamination.

The method blank SBLKWD1922 was analyzed on 07/13/06 with reanalyzed sample 4803899RE and results were free of contamination.

**4. Surrogate:**

The method blanks and the investigated samples had surrogate recoveries within the required quality control limits, except triphenylene for samples 4803899 and 4803899RE and diluted out for sample 4803899DL1. Also, nitrobenzene was diluted out for sample 4803899DL2. No action was taken because the sample was reanalyzed and diluted and still had recoveries outside the required control limits due to the sample matrix.

August 23, 2006

**5. Matrix Spike/Matrix Spike Duplicate:**

The matrix spike and matrix spike duplicate associated with samples 4803886 thru 4803893, 4803895, 4803898 thru 4803907, 4803899DL1 and 4803899DL2 recoveries were within the acceptance quality control limits. Also, the RPD% values were acceptable.

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at batch level.

**6. Laboratory Control Sample:**

The laboratory control sample associated with samples 4803886 thru 4803893, 4803895 thru 4803907, 4803899DL1 and 4803899DL2 recoveries were within the acceptance quality control limits.

The laboratory control sample/ laboratory control sample duplicate associated with sample 4803899-RE recoveries were within the acceptance quality control limits. Also, the RPD% values were acceptable.

**7. Retention Time:**

All the retention time results were acceptable.

**8. Initial and Continuing Calibration:**

The initial calibration and continuing calibration verification were all acceptable.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: naphthalene, acenaphthylene, 1-methylnaphthalene, 2-methylnaphthalene, fluorene, phenanthrene, and anthracene were taken from ultraviolet detector, and acenaphthene, fluoranthene, pyrene, benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, dibenzo (a, h) anthracene, benzo (g, h, i) perylene, and indeno (1, 2, 3-cd) pyrene were taken from fluorescence detector.

August 23, 2006

**BETX (U.S. EPA Method 8021B)**  
**SDG # MMA82**

**1. Samples:**

Client Sample	Lab Sample	Date	Date	Date
Description:	Number	Collected	Prepared	Analyzed
MA3-FB-062706-01	4803886	Grab G-water	06/27/06	06/29/06
MA3-FB-062706-02	4803887	Grab G-water	06/27/06	06/29/06
MA3-MW27S-062706-1	4803888	Grab G-water	06/27/06	06/29/06
MA3-MW27S-062706-2-DP	4803889	Grab G-water	06/27/06	06/29/06
MA3-MW28S-062706-12	4803890	Grab G-water	06/27/06	06/29/06
MA3-MW29S-062706-9	4803891	Grab G-water	06/27/06	06/29/06
MA3-MW30S-062606-1	4803892	Grab G-water	06/27/06	06/29/06
MA3-MW31S-062706-8	4803893	Grab G-water	06/27/06	06/29/06
MA3-MW32S-062706-3-BKG	4803895	Grab G-water	06/27/06	06/29/06
MA3-MW32S-062706-4-MS	4803896	Grab G-water	06/27/06	06/29/06
MA3-MW32S-062706-4-MSD	4803897	Grab G-water	06/27/06	06/29/06
MA3-MW33S-062706-5	4803898	Grab G-water	06/27/06	06/29/06
MA3-MW34S-062706-15	4803899	Grab G-water	06/27/06	06/29/06
MA3-MW35S-062706-13	4803900	Grab G-water	06/27/06	06/29/06
MA3-MW35S-062706-14-DP	4803901	Grab G-water	06/27/06	06/29/06
MA3-MW36S-062706-11	4803902	Grab G-water	06/27/06	06/29/06
MA3-MW37S-062706-10	4803903	Grab G-water	06/27/06	06/29/06
MA3-MW5S-062606-2	4803904	Grab G-water	06/27/06	06/30/06
MA3-MW6S-062706-7	4803905	Grab G-water	06/27/06	06/30/06
MA3-MW7S-062706-16	4803906	Grab G-water	06/27/06	06/30/06
MA3-MW9S-062706-6	4803907	Grab G-water	06/27/06	06/30/06
MA3-TB	4803908	Grab G-water	06/27/06	06/30/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

**3. Method Blank:**

Three method blanks BLK1527, BLK1528 and BLK1529 were associated with this SDG. The method blank BLK1527 batch 06180A15A was analyzed on 06/29/06 with samples (4803866 thru 4803893 and 4803895 thru 4803906) results was free of contamination.

The method blank BLK1528 batch 06181A15A was analyzed on 06/30/06 with sample 4803908 results were free of contamination.

The method blank BLK1529 batch 06181A15B was analyzed on 06/30/06 with sample 4803907 results were free of contamination.

**4. Matrix Spike:**

The laboratory performed matrix spike on sample 4803895 associated with batch 06180A15A. The MS/MSD recoveries were within the quality control limits. Also, the RPD% values were acceptable.

The laboratory performed matrix spike on sample 4803838 associated with batch 06181A15. The MS recoveries were within the quality control limits.

August 23, 2006

**5. Laboratory Control Sample:**

The laboratory control sample/ laboratory control sample duplicate associated with batch 06180A15 recoveries were within the acceptance quality control limits. Also, the RPD% values were acceptable.

The laboratory control sample/ laboratory control sample duplicate associated with batch 06181A15 recoveries were within the acceptance quality control limits. Also, the RPD% values were acceptable.

**6. Surrogate:**

The method blanks and the investigated samples had surrogate recoveries within the required quality control limits.

**7. Initial and Continuing Calibration:**

All the initial calibration and continuing calibration results were within the quality control limits.

Data Reviewed by: Tania Shammo

08/23/06



## ANALYTICAL RESULTS

Prepared for:

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

405-775-5429

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

### SAMPLE GROUP

The sample group for this submittal is 995398. Samples arrived at the laboratory on Wednesday, June 28, 2006. The PO# for this group is ZAKW1KEOK0A90089.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MA3-FB-062706-1	4803886
MA3-FB-062706-2	4803887
MA3-MW27S-062706-1	4803888
MA3-MW27S-062706-2-DP	4803889
MA3-MW28S-062706-12	4803890
MA3-MW29S-062706-9	4803891
MA3-MW30S-062606-1	4803892
MA3-MW31S-062706-8	4803893
MA3-MW32S-062706-3-BKG	4803895
MA3-MW32S-062706-4-MS	4803896
MA3-MW32S-062706-4-MSD	4803897
MA3-MW33S-062706-5	4803898
MA3-MW34S-062706-15	4803899
MA3-MW35S-062706-13	4803900
MA3-MW35S-062706-14-DP	4803901
MA3-MW36S-062706-11	4803902
MA3-MW37S-062706-10	4803903
MA3-MW5S-062606-2	4803904
MA3-MW6S-062706-7	4803905
MA3-MW7S-062706-16	4803906
MA3-MW9S-062706-6	4803907
MA3-TB-	4803908

### METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.



1 COPY TO            Weston Solutions, Inc.  
1 COPY TO            Tronox LLC  
1 COPY TO            Data Package Group

Attn: Tom Graan  
Attn: Roy Widmann

Questions? Contact your Client Services Representative  
Gwen A Birchall at (717) 656-2300

Respectfully Submitted,

*Michele J. Smith*  
Michele J. Smith  
Group Leader



Page 1 of 2

Lancaster Laboratories Sample No. WW 4803886

MA3-FB-062706-1                   Groundwater  
 062706-3,4                         02687.007.007.0001

Moss American  
 Collected: 06/27/2006 08:00       by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

27FB1 SDG#: KMA82-01FB

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			As Received Result	Method Detection Limit	
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l
00777	Toluene	108-88-3	N.D.	0.2	ug/l
00778	Ethylbenzene--	100-41-4	N.D.	0.2	ug/l
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.5	ug/l
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l
00783	Acenaphthene	83-32-9	N.D.	1.0	ug/l
00784	Fluorene	86-73-7	N.D.	0.57	ug/l
00785	Phenanthrene	85-01-8	N.D.	0.091	ug/l
00789	Anthracene	120-12-7	N.D.	0.045	ug/l
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l
00811	Pyrene	129-00-0	N.D.	0.20	ug/l
00812	Benzo(a)anthracene	56-55-3	N.D.	0.023	ug/l
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.091	ug/l
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l
07409	Chrysene	218-01-9	N.D.	0.091	ug/l
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	
08213	BTEX (8021)	SW-846 8021B	1	06/29/2006 14:24	1
00774	PAH's in Water by HPLC	SW-846.8310	1	07/07/2006 04:59	1



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Lancaster Laboratories Sample No. WW 4803886

MA3-FB-062706-1                   Groundwater  
062706-3,4                        02687.007.007.0001  
Moss American

Collected: 06/27/2006 08:00      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

27FB1   SDG#: KMA82-01FB  
01146   GC VOA Water Prep         SW-846 5030B      1    06/29/2006 14:24    Steven A Skiles  
03337   PAH Water Extraction     SW-846 3510C      1    06/30/2006 05:30    Mark P Mastropietro

1  
1



Page 1 of 2

Lancaster Laboratories Sample No. WW 4803887

MA3-FB-062706-2                   Groundwater  
 062706-4                           02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 16:30       by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

27FB2 SDG#: KMA82-02FB

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			As Received Result	Method Detection Limit		
<b>08213 BTEX (8021)</b>						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
<b>00774 PAH's in Water by HPLC</b>						
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.99	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.088	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.088	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.088	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Page 2 of 2

Lancaster Laboratories Sample No. WW 4803887

MA3-FB-062706-2                   Groundwater  
062706-4                           02687.007.007.0001  
Moss American

Collected: 06/27/2006 16:30       by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

27FB2     SDG#: KMA82-02FB  
08213     BTEX (8021)              SW-846 8021B  
00774     PAH's in Water by HPLC   SW-846 8310  
01146     GC VOA Water Prep        SW-846 5030B  
03337     PAH Water Extraction     SW-846 3510C

1	06/29/2006 14:54	Steven A Skiles	1
1	07/07/2006 05:38	Mark A Clark	1
1	06/29/2006 14:54	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



Page 1 of 2

Lancaster Laboratories Sample No. WW 4803888

MA3-MW27S-062706-1      Groundwater  
 062706-1,4      02687.007.007.0001  
 Moss American

Collected: 06/27/2006 09:00 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2727S SDG#: KMA82-03

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method Result	Detection Limit		
<b>08213 BTEX (8021)</b>						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene -	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
<b>00774 PAH's in Water by HPLC</b>						
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.96	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.085	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.085	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	



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Lancaster Laboratories Sample No. WW 4803888

MA3-MW27S-062706-1      Groundwater  
062706-1,4      02687.007.007.0001  
Moss American  
Collected: 06/27/2006 09:00      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2727S	SDG#:	KMA82-03						
08213	BTEX (8021)	SW-846 8021B	1	06/29/2006	15:23	Steven A Skiles	1	
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006	06:17	Mark A Clark	1	
01146	GC VOA Water Prep	SW-846 5030B	1	06/29/2006	15:23	Steven A Skiles	1	
03337	PAH Water Extraction.	SW-846 3510C	1	06/30/2006	05:30	Mark P Mastropietro	1	



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Lancaster Laboratories Sample No. WW 4803889

MA3-MW27S-062706-2-DP Groundwater  
 062706-1,4 02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 09:00 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

27SFD SDG#: KMA82-04FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
<b>08213 BTEX (8021)</b>						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene -	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
<b>00774 PAH's in Water by HPLC</b>						
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.96	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.085	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.085	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4803890

MA3-MW28S-062706-12      Groundwater  
 062706-2,4      02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 15:00      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2728S	SDG#:	KMA82-05
08213	BTEX (8021)	SW-846 8021B
00774	PAH's in Water by HPLC	SW-846 8310
01146	GC VOA Water Prep	SW-846 5030B
03337	PAH Water Extraction	SW-846 3510C

1	06/29/2006 16:23	Steven A Skiles	1
1	07/07/2006 08:13	Mark A Clark	1
1	06/29/2006 16:23	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803891

MA3-MW29S-062706-9      Groundwater  
 062706-2,4      02687.007.007.0001  
 Moss American

Collected: 06/27/2006 13:50 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2729S SDG#: KMA82-06

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			As Received Result	Method Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.97	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.54	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.086	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.086	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.086	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4803891

MA3-MW29S-062706-9      Groundwater  
 062706-2,4      02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 13:50      by MC

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Account Number: 11947

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2729S	SDG#: KMA82-06						
08213	BTEX (8021)	SW-846 8021B	1	06/29/2006 16:52	Steven A Skiles	1	
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 08:52	Mark A Clark	1	
01146	GC VOA Water Prep	SW-846 5030B	1	06/29/2006 16:52	Steven A Skiles	1	
03337	PAH Water Extraction	SW-846 3510C	1	06/30/2006 05:30	Mark P Mastropietro	1	



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Lancaster Laboratories Sample No. WW 4803892

MA3-MW30S-062606-1      Groundwater  
 062706-1,4      02687.007.007.0001  
 Moss American

Collected: 06/26/2006 16:30 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2630S SDG#: KMA82-07

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			As Received Result	Method Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.3	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.4	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.93	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.51	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.082	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.041	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.082	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.082	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	
08213	BTEX (8021)	SW-846 8021B	1	06/29/2006 17:22	Steven A Skiles
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 09:31	Mark A Clark



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Lancaster Laboratories Sample No. WW 4803892

MA3-MW30S-062606-1      Groundwater  
062706-1,4      02687.007.007.0001  
Moss American  
Collected: 06/26/2006 16:30      by MC

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

2630S      SDG#: KMA82-07  
01146      GC VOA Water Prep      SW-846 5030B  
03337      PAH Water Extraction      SW-846 3510C

Account Number: 11947

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

1	06/29/2006 17:22	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803893

MA3-MW31S-062706-8      Groundwater  
 062706-2,4      02687.007.007.0001  
 Moss American

Collected: 06/27/2006 10:40 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2731S SDG#: KMA82-08

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method Result	Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.94	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.52	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.083	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.083	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.083	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	



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Lancaster Laboratories Sample No. WW 4803893

MA3-MW31S-062706-8      Groundwater  
062706-2,4      02687.007.007.0001  
Moss American  
Collected: 06/27/2006 10:40      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2731S SDG#: KMA82-08

08213 BTEX (8021)  
00774 PAH's in Water by HPLC  
01146 GC VOA Water Prep  
03337 PAH Water Extraction

SW-846 8021B  
SW-846 8310  
SW-846 5030B  
SW-846 3510C

1	06/29/2006 20:19	Steven A Skiles	1
1	07/07/2006 10:10	Mark A Clark	1
1	06/29/2006 20:19	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803895

MA3-MW32S-062706-3-BKG Groundwater  
 062706-1,4 02687.007.007.0001  
 Moss American

Collected: 06/27/2006 09:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

4-32S SDG#: KMA82-09BKG

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			As Received Result	Method Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.0	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	



Lancaster  
Laboratories

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Lancaster Laboratories Sample No. WW 4803895

MA3-MW32S-062706-3-BKG Groundwater  
062706-1,4 02687.007.007.0001

Moss American  
Collected: 06/27/2006 09:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

4-32S	SDG#:	KMA82-09BKG						
08213	BTEX (8021)	SW-846 8021B	1	06/29/2006	17:51	Steven A Skiles	1	
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006	02:24	Mark A Clark	1	
01146	GC VOA Water Prep	SW-846 5030B	1	06/29/2006	17:51	Steven A Skiles	1	
03337	PAH Water Extraction	SW-846 3510C	1	06/30/2006	05:30	Mark P Mastropietro	1	



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Lancaster Laboratories Sample No. WW 4803896

MA3-MW32S-062706-4-MS Groundwater  
 062706-1,4 02687.007.007.0001  
 Moss American

Collected: 06/27/2006 09:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

4-32S SDG#: KMA82-09MS

CAT No.	Analysis Name	CAS Number	As Received			Dilution Factor
			As Received Result	Method Detection Limit	Units	
<b>08213 BTEX (8021)</b>						
00776	Benzene	71-43-2	17.	0.2	ug/l	1
00777	Toluene	108-88-3	18.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	17.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	54.	0.6	ug/l	1
<b>00774 PAH's in Water by HPLC</b>						
00775	Naphthalene	91-20-3	190.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	200.	1.6	ug/l	1
00783	Acenaphthene	83-32-9	200.	1.0	ug/l	1
00784	Fluorene	86-73-7	21.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	6.5	0.089	ug/l	1
00789	Anthracene	120-12-7	3.2	0.044	ug/l	1
00807	Fluoranthene	206-44-0	3.3	0.044	ug/l	1
00811	Pyrene	129-00-0	22.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.7	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.4	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.8	0.022	ug/l	1
00895	Dibenz(a, h)anthracene	53-70-3	3.3	0.044	ug/l	1
00898	Indeno(1, 2, 3-cd)pyrene	193-39-5	6.7	0.089	ug/l	1
00907	Benzo(g, h, i)perylene	191-24-2	12.	0.11	ug/l	1
07409	Chrysene	218-01-9	6.7	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.4	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	



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Lancaster Laboratories Sample No. WW 4803896

MA3-MW32S-062706-4-MS Groundwater  
062706-1,4 02687.007.007.0001  
Moss American  
Collected: 06/27/2006 09:10 by MC

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Account Number: 11947

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

4-32S SDG#: KMA82-09MS  
08213 BTEX (8021) SW-846 8021B  
00774 PAH's in Water by HPLC SW-846 8310  
01146 GC VOA Water Prep SW-846 5030B  
03337 PAH Water Extraction SW-846 3510C

1	06/29/2006 18:21	Steven A Skiles	1
1	07/07/2006 03:03	Mark A Clark	1
1	06/29/2006 18:21	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803897

MA3-MW32S-062706-4-MSD Groundwater  
062706-1,4 02687.007.007.0001

Moss American

Collected: 06/27/2006 09:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

4-32S SDG#: KMA82-09MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	17.	0.2	ug/l	1
00777	Toluene	108-88-3	17.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	17.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	52.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	180.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	190.	1.6	ug/l	1
00783	Acenaphthene	83-32-9	200.	1.0	ug/l	1
00784	Fluorene	86-73-7	21.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	6.5	0.089	ug/l	1
00789	Anthracene	120-12-7	3.2	0.044	ug/l	1
00807	Fluoranthene	206-44-0	3.3	0.044	ug/l	1
00811	Pyrene	129-00-0	22.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.7	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.4	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.8	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	3.3	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	6.7	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	12.	0.11	ug/l	1
07409	Chrysene	218-01-9	6.6	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.4	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4803897

MA3-MW32S-062706-4-MSD Groundwater  
062706-1,4 02687.007.007.0001

Moss American  
Collected: 06/27/2006 09:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

4-32S SDG#: KMA82-09MSD

08213	BTEX (8021)	SW-846 8021B	1	06/29/2006 18:51	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 03:41	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/29/2006 18:51	Steven A Skiles	1
03337	PAH Water Extraction	SW-846 3510C	1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803898

MA3-MW33S-062706-5      Groundwater  
 062706-1,4      02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 09:20      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2733S SDG#: KMA82-10

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			As Received Result	Method Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	1.9	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	7.1	J	1.4	ug/l
00782	Acenaphthylene	208-96-8	N.D.	30.	ug/l	1
00783	Acenaphthene	83-32-9	100.	0.97	ug/l	1
00784	Fluorene	86-73-7	38.	0.54	ug/l	1
00785	Phenanthrene	85-01-8	6.3	0.086	ug/l	1
00789	Anthracene	120-12-7	0.16	J	0.043	ug/l
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.086	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.086	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for acenaphthylene. The reporting limit for this compound was raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.



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Lancaster Laboratories Sample No. WW 4803898

MA3-MW33S-062706-5 Groundwater  
062706-1,4 02687.007.007.0001Moss American  
Collected: 06/27/2006 09:20 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2733S SDG#: KMA82-10

## Laboratory Chronicle

CAT	Analysis Name	Method	Analysis	Dilution Factor
No.			Trial# Date and Time	Analyst
08213	BTEX (8021)	SW-846 8021B	1 06/29/2006 20:49	Steven A Skiles
00774	PAH's in Water by HPLC	SW-846 8310	1 07/07/2006 10:49	Mark A Clark
01146	GC VOA Water Prep	SW-846 5030B	1 06/29/2006 20:49	Steven A Skiles
03337	PAH Water Extraction	SW-846 3510C	1 06/30/2006 05:30	Mark P Mastropietro



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Lancaster Laboratories Sample No. WW 4803899

MA3-MW34S-062706-15 Groundwater  
 062706-3,4 02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 15:50 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2734S SDG#: KMA82-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	6.9	J	2.0	ug/l
00777	Toluene	108-88-3	N.D.		2.0	ug/l
00778	Ethylbenzene	100-41-4	25.		2.0	ug/l
00779	Total Xylenes	1330-20-7	70.		6.0	ug/l
Due to the nature of the sample matrix, normal reporting limits were not attained.						
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	6,500.		27.	ug/l
00782	Acenaphthylene	208-96-8	N.D.		130.	ug/l
00783	Acenaphthene	83-32-9	200.		0.94	ug/l
00784	Fluorene	86-73-7	110.		5.2	ug/l
00785	Phenanthrene	85-01-8	120.		0.84	ug/l
00789	Anthracene	120-12-7	9.6		0.42	ug/l
00807	Fluoranthene	206-44-0	14.		0.42	ug/l
00811	Pyrene	129-00-0	9.0		0.19	ug/l
00812	Benzo(a)anthracene	56-55-3	0.73		0.021	ug/l
00818	Benzo(b)fluoranthene	205-99-2	0.13	J	0.042	ug/l
00823	Benzo(a)pyrene	50-32-8	0.18		0.021	ug/l
00895	Dibenzo(a,h)anthracene	53-70-3	N.D.		0.042	ug/l
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.084	ug/l
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.10	ug/l
07409	Chrysene	218-01-9	0.62		0.084	ug/l
07410	Benzo(k)fluoranthene	207-08-9	0.084	J	0.021	ug/l

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for acenaphthylene. The reporting limit for this compound was raised accordingly.

Surrogate recoveries were outside of QC limits. The analysis was repeated and surrogate recoveries were again outside of QC limits, indicating a matrix effect.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4803899

MA3-MW34S-062706-15      Groundwater  
 062706-3,4      02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 15:50.      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2734S SDG#: KMA82-11

CAT No.	Analysis Name	CAS Number	As Received		Method Detection Limit	Units	Dilution Factor
			Result				

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
08213	BTEX (8021)	SW-846 8021B	1	06/29/2006 21:19	Steven A Skiles	10
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 11:27	Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/11/2006 07:08	Mark A Clark	10
00774	PAH's in Water by HPLC	SW-846 8310	1	07/13/2006 17:03	Mark A Clark	20
01146	GC VOA Water Prep	SW-846 5030B	1	06/29/2006 21:19	Steven A Skiles	10
03337	PAH Water Extraction	SW-846 3510C	1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803900

MA3-MW35S-062706-13 Groundwater  
 062706-3,4 02687.007.007.0001  
 Moss American

Collected: 06/27/2006 15:30 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:06  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

2735S SDG#: KMA82-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
<b>08213 BTEX (8021)</b>						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
<b>00774 PAH's in Water by HPLC</b>						
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.97	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.54	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.086	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	0.66	0.043	ug/l	1
00811	Pyrene	129-00-0	0.40	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.086	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.086	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4803900

MA3-MW35S-062706-13      Groundwater  
062706-3,4      02687.007.007.0001  
Moss American  
Collected: 06/27/2006 15:30      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2735S SDG#: KMA82-12  
08213 BTEX (8021)      SW-846 8021B  
00774 PAH's in Water by HPLC      SW-846 8310  
01146 GC VOA Water Prep      SW-846 5030B  
03337 PAH Water Extraction      SW-846 3510C

1	06/29/2006 22:18	Steven A Skiles	1
1	07/07/2006 12:06	Mark A Clark	1
1	06/29/2006 22:18	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803901

MA3-MW35S-062706-14-DP Groundwater  
062706-3,4 02687.007.007.0001Moss American  
Collected: 06/27/2006 15:30 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

35SFD SDG#: KMA82-13FD

CAT	No.	Analysis Name	CAS Number	As Received Result	As Received Method	Detection Limit	Units	Dilution Factor
08213	BTEX (8021)							
00776	Benzene	71-43-2	N.D.	0.2		ug/l	1	
00777	Toluene	108-88-3	N.D.	0.2		ug/l	1	
00778	Ethylbenzene--	100-41-4	N.D.	0.2		ug/l	1	
00779	Total Xylenes	1330-20-7	N.D.	0.6		ug/l	1	
00774	PAH's in Water by HPLC							
00775	Naphthalene	91-20-3	N.D.	1.4		ug/l	1	
00782	Acenaphthylene	208-96-8	N.D.	1.5		ug/l	1	
00783	Acenaphthene	83-32-9	N.D.	0.95		ug/l	1	
00784	Fluorene	86-73-7	N.D.	0.53		ug/l	1	
00785	Phenanthrene	85-01-8	N.D.	0.085		ug/l	1	
00789	Anthracene	120-12-7	N.D.	0.042		ug/l	1	
00807	Fluoranthene	206-44-0	0.65	0.042		ug/l	1	
00811	Pyrene	129-00-0	0.40	0.19		ug/l	1	
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021		ug/l	1	
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042		ug/l	1	
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021		ug/l	1	
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042		ug/l	1	
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085		ug/l	1	
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11		ug/l	1	
07409	Chrysene	216-01-9	N.D.	0.085		ug/l	1	
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021		ug/l	1	

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT	No.	Analysis Name	Method	Trial#	Date and Time	Analysis	Analyst	Dilution Factor
08213	08213	BTEX (8021)	SW-846 8021B	1	06/29/2006 22:47		Steven A Skiles	1
00774	00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 12:45		Mark A Clark	1



Lancaster  
Laboratories

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Lancaster Laboratories Sample No. WW 4803901

MA3-MW35S-062706-14-DP Groundwater  
062706-3,4 02687.007.007.0001

Moss American

Collected: 06/27/2006 15:30 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35

Reported: 08/02/2006 at 13:06

Discard: 10/02/2006

Tronox LLC

P.O. Box 268859

Oklahoma City OK 73126-8859

35SFD SDG#: KMA82-13FD

01146 GC VOA Water Prep

SW-846 5030B

1 06/29/2006 22:47 Steven A Skiles

03337 PAH Water Extraction

SW-846 3510C

1 06/30/2006 05:30 Mark P Mastropietro

1



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Lancaster Laboratories Sample No. WW 4803902

MA3-MW36S-062706-11 Groundwater  
062706-2,4 02687.007.007.0001

Moss American

Collected: 06/27/2006 14:30 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2736S SDG#: KMA82-14

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Result	Method Detection Limit		
<b>08213 BTEX (8021)</b>						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
<b>00774 PAH's in Water by HPLC</b>						
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.96	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.085	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.085	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4803902

MA3-MW36S-062706-11      Groundwater  
062706-2,4      02687.007.007.0001  
Moss American  
Collected: 06/27/2006 14:30 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:06  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2736S SDG#: KMA82-14  
08213 BTEX (8021)      SW-846 8021B  
00774 PAH's in Water by HPLC      SW-846 8310  
01146 GC VOA Water Prep      SW-846 5030B  
03337 PAH Water Extraction      SW-846 3510C

1	06/29/2006 23:17	Steven A Skiles	1
1	07/07/2006 13:24	Mark A Clark	1
1	06/29/2006 23:17	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1

# Analysis Report



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Lancaster Laboratories Sample No. WW 4803903

MA3-MW37S-062706-10 Groundwater  
062706-2,4 02687.007.007.0001

Moss American  
Collected: 06/27/2006 14:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:07  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2737S SDG#: KMA82-15

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		
<b>08213 BTEX (8021)</b>						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene --	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
<b>00774 PAH's in Water by HPLC</b>						
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acénaphthène	83-32-9	N.D.	0.96	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.085	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.085	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	
08213	BTEX (8021)	SW-846 8021B	1	06/29/2006 23:47	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 14:03	1



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Lancaster Laboratories Sample No. WW 4803903

MA3-MW37S-062706-10      Groundwater  
062706-2,4      02687.007.007.0001  
Moss American

Collected: 06/27/2006 14:10      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:07  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

2737S      SDG#: KMA82-15  
01146      GC VOA Water Prep      SW-846 5030B  
03337      PAH Water Extraction      SW-846 3510C

1      06/29/2006 23:47      Steven A Skiles      1  
1      06/30/2006 05:30      Mark P Mastropietro      1



Page 1 of 2

Lancaster Laboratories Sample No. WW 4803904

MA3-MW5S-062606-2      Groundwater  
 062706-1,4      02687.007.007.0001  
 Moss American  
 Collected: 06/26/2006 16:45 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:07  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

26-5S SDG#: KMA82-16

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
<b>08213 BTEX (8021)</b>					
00776	Benzene	71-43-2	N.D.	0.2	ug/l
00777	Toluene	108-88-3	N.D.	0.2	ug/l
00778	Ethylbenzene --	100-41-4	N.D.	0.2	ug/l
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l
<b>00774 PAH's in Water by HPLC</b>					
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l
00783	Acenaphthene	83-32-9	N.D.	0.94	ug/l
00784	Fluorene	86-73-7	N.D.	0.52	ug/l
00785	Phenanthrene	85-01-8	N.D.	0.084	ug/l
00789	Anthracene	120-12-7	N.D.	0.042	ug/l
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l
00811	Pyrene	129-00-0	N.D.	0.19	ug/l
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.084	ug/l
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l
07409	Chrysene	218-01-9	N.D.	0.084	ug/l
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Laboratory Chronicle		Dilution Factor
			Analysis	Date and Time	
Trial#					



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Lancaster Laboratories Sample No. WW 4803904

MA3-MW5S-062606-2      Groundwater  
062706-1,4      02687.007.007.0001  
Moss American  
Collected: 06/26/2006 16:45      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:07  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

26-5S SDG#: KMA82-16  
08213 BTEX (8021)      SW-846 8021B  
00774 PAH's in Water by HPLC      SW-846 8310  
01146 GC VOA Water Prep      SW-846 5030B  
03337 PAH Water Extraction      SW-846 3510C

1	06/30/2006 00:16	Steven A Skiles	1
1	07/07/2006 15:20	Mark A Clark	1
1	06/30/2006 00:16	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803905

MA3-MW6S-062706-7      Groundwater  
 062706-1,4      02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 10:30 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:07  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

27-6S SDG#: KMA82-17

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.3	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.93	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.52	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.083	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.041	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.083	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.083	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Dilution Factor
			Trial#	Date and Time	
08213	BTEX (8021)	SW-846 8021B	1	06/30/2006 00:46	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 15:59	1



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Lancaster Laboratories Sample No. WW 4803905

MA3-MW6S-062706-7      Groundwater  
062706-1,4      02687.007.007.0001  
Moss American  
Collected: 06/27/2006 10:30      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:07  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

27-6S      SDG#: KMA82-17  
01146      GC VOA Water Prep      SW-846 5030B  
03337      PAH Water Extraction      SW-846 3510C

1	06/30/2006 00:46	Steven A Skiles	1
1	06/30/2006 05:30	Mark P Mastropietro	1



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Lancaster Laboratories Sample No. WW 4803906

MA3-MW7S-062706-16 Groundwater  
 062706-3,4 02687.007.007.0001  
 Moss American

Collected: 06/27/2006 16:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:07  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

27-7S SDG#: KMA82-18

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor	
08213	BTEX (8021)						
00776	Benzene	71-43-2	1.2	0.2	ug/l	1	
00777	Toluene	108-88-3	0.2	J	ug/l	1	
00778	Ethylbenzene --	100-41-4	11.	0.2	ug/l	1	
00779	Total Xylenes	1330-20-7	12.	0.6	ug/l	1	
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	12.	J	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	20.	ug/l	1	
00783	Acenaphthene	83-32-9	22.	0.94	ug/l	1	
00784	Fluorene	86-73-7	4.1	0.52	ug/l	1	
00785	Phenanthrene	85-01-8	N.D.	0.084	ug/l	1	
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1	
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1	
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1	
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1	
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1	
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1	
00895	Dibenz(a, h)anthracene	53-70-3	N.D.	0.042	ug/l	1	
00898	Indeno(1, 2, 3-cd)pyrene	193-39-5	N.D.	0.084	ug/l	1	
00907	Benzo(g, h, i)perylene	191-24-2	N.D.	0.10	ug/l	1	
07409	Chrysene	218-01-9	N.D.	0.084	ug/l	1	
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1	

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for acenaphthylene. The reporting limit for this compound was raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.



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Lancaster Laboratories Sample No. WW 4803906

MA3-MW7S-062706-16      Groundwater  
 062706-3,4      02687.007.007.0001  
 Moss American  
 Collected: 06/27/2006 16:10      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:07  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

27-7S SDG#: KMA82-18

## Laboratory Chronicle

CAT	No.	Analysis Name	Method	Trial#	Analysis	Dilution Factor
	08213	BTEX (8021)	SW-846 8021B	1	06/30/2006 01:16	Steven A Skiles 1
	00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 16:38	Mark A Clark 1
	01146	GC VOA Water Prep	SW-846 5030B	1	06/30/2006 01:16	Steven A Skiles 1
	03337	PAH Water Extraction	SW-846 3510C	1	06/30/2006 05:30	Mark P Mastropietro 1



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Lancaster Laboratories Sample No. WW 4803907

MA3-MW9S-062706-6      Groundwater  
 062706-1,4      02687.007.007.0001  
 Moss American

Collected: 06/27/2006 10:10 by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:07  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

27-9S SDG#: KMA82-19

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.95	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.084	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.084	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.084	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4803907

MA3-MW9S-062706-6      Groundwater  
062706-1,4      02687.007.007.0001  
Moss American

Collected: 06/27/2006 10:10      by MC

Account Number: 11947

Submitted: 06/28/2006 09:35  
Reported: 08/02/2006 at 13:07  
Discard: 10/02/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

27-9S	SDG#:	KMA82-19						
08213	BTEX (8021)	SW-846 8021B	1	06/30/2006	19:37	Steven A Skiles	1	
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006	17:17	Mark A Clark	1	
01146	GC VOA Water Prep	SW-846 5030B	1	06/30/2006	19:37	Steven A Skiles	1	
03337	PAH Water Extraction	SW-846 3510C	1	06/30/2006	05:30	Mark P Mastropietro	1	



Page 1 of 1

Lancaster Laboratories Sample No. WW 4803908

MA3-TB- Groundwater  
 060627- 02687.007.007.0001  
 Moss American  
 Collected: n.a.

Account Number: 11947

Submitted: 06/28/2006 09:35  
 Reported: 08/02/2006 at 13:07  
 Discard: 10/02/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

MA-TB SDG#: KMA82-20TB\*

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
08213	BTEX (8021)	SW-846 8021B	1	06/30/2006 13:11	Steven A Skiles	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/30/2006 13:11	Steven A Skiles	1



## Quality Control Summary

Client Name: Tronox LLC  
 Reported: 08/02/06 at 01:07 PM

Group Number: 995398

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

## Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 06180A15A			Sample number(s): 4803886-4803893, 4803895-4803906					
Benzene	N.D.	0.2	ug/l	87	88	86-119	1	30
Toluene	N.D.	0.2	ug/l	90	91	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	91	91	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	94	94	82-120	0	30
Batch number: 06180WAK026			Sample number(s): 4803886-4803893, 4803895-4803907					
Naphthalene	N.D.	1.3	ug/l	78		57-109		
Acenaphthylene	N.D.	1.4	ug/l	84		67-99		
Acenaphthene	N.D.	0.90	ug/l	86		60-116		
Fluorene	N.D.	0.50	ug/l	91		75-102		
Phenanthrene	N.D.	0.080	ug/l	96		67-115		
Anthracene	N.D.	0.040	ug/l	93		68-113		
Fluoranthene	N.D.	0.040	ug/l	97		70-112		
Pyrene	N.D.	0.18	ug/l	97		69-113		
Benzo(a)anthracene	N.D.	0.020	ug/l	102		73-114		
Benzo(b)fluoranthene	N.D.	0.040	ug/l	104		72-113		
Benzo(a)pyrene	N.D.	0.020	ug/l	105		68-112		
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	99		31-121		
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	99		66-109		
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	94		14-124		
Chrysene	N.D.	0.080	ug/l	99		70-111		
Benzo(k)fluoranthene	N.D.	0.020	ug/l	103		72-119		
Batch number: 06181A15A			Sample number(s): 4803908					
Benzene	N.D.	0.2	ug/l	90	90	86-119	0	30
Toluene	N.D.	0.2	ug/l	94	94	82-119	0	30
Ethylbenzene	N.D.	0.2	ug/l	95	96	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	98	98	82-120	1	30
Batch number: 06181A15B			Sample number(s): 4803907					
Benzene	N.D.	0.2	ug/l	90	90	86-119	0	30
Toluene	N.D.	0.2	ug/l	94	94	82-119	0	30
Ethylbenzene	N.D.	0.2	ug/l	95	96	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	98	98	82-120	1	30

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 06180A15A			Sample number(s): 4803886-4803893, 4803895-4803906 UNSPK: 4803895					

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



## Quality Control Summary

Client Name: Tronox LLC  
 Reported: 08/02/06 at 01:07 PM

Group Number: 995398

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD RPD</u>	<u>BKG MAX Conc</u>	<u>DUP Conc</u>	<u>DUP RPD RPD</u>	<u>Dup Max</u>
Benzene	86	85	78-131	2	30			
Toluene	88	85	78-129	3	30			
Ethylbenzene	87	86	75-133	2	30			
Total Xylenes	89	87	84-131	2	30			
Batch number: 06180WAK026			Sample number(s): 4803886-4803893, 4803895-4803907 UNSPK: 4803895					
Naphthalene	84	81	54-112	3	30			
Acenaphthylene	88	86	63-104	2	30			
Acenaphthene	90	89	59-114	1	30			
Fluorene	95	93	71-99	1	30			
Phenanthrene	98	97	66-115	1	30			
Anthracene	97	97	68-104	1	30			
Fluoranthene	99	98	67-104	1	30			
Pyrene	97	97	66-106	0	30			
Benzo(a)anthracene	103	103	63-111	0	30			
Benzo(b)fluoranthene	104	104	71-106	0	30			
Benzo(a)pyrene	107	106	69-109	1	30			
Dibenz(a, h)anthracene	100	100	62-115	0	30			
Indeno(1, 2, 3-cd)pyrene	100	100	56-112	0	30			
Benzo(g, h, i)perylene	87	87	56-115	0	30			
Chrysene	100	99	76-103	1	30			
Benzo(k)fluoranthene	103	104	70-109	0	30			
Batch number: 06181A15A			Sample number(s): 4803908 UNSPK: P803838					
Benzene	101		78-131					
Toluene	104		78-129					
Ethylbenzene	105		75-133					
Total Xylenes	108		84-131					
Batch number: 06181A15B			Sample number(s): 4803907 UNSPK: P803838					
Benzene	101		78-131					
Toluene	104		78-129					
Ethylbenzene	105		75-133					
Total Xylenes	108		84-131					

## Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX (8021)  
 Batch number: 06180A15A  
 Trifluorotoluene-P

4803886	105
4803887	104
4803888	104
4803889	103
4803890	104
4803891	104

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



### Quality Control Summary

Client Name: Tronox LLC  
 Reported: 08/02/06 at 01:07 PM

Group Number: 995398

#### Surrogate Quality Control

4803892	104
4803893	104
4803895	104
4803896	103
4803897	103
4803898	103
4803899	101
4803900	103
4803901	103
4803902	104
4803903	104
4803904	104
4803905	104
4803906	100
Blank	104
LCS	102
LCSD	103
MS	103
MSD	103

---

Limits: 69-129

Analysis Name: PAH's in Water by HPLC

Batch number: 06180WAK026

#### Nitrobenzene      Triphenylene

4803886	99	103
4803887	103	107
4803888	100	104
4803889	101	103
4803890	96	99
4803891	101	104
4803892	99	104
4803893	96	100
4803895	103	105
4803896	102	103
4803897	98	104
4803898	105	107
4803899	18788*	140*
4803900	95	100
4803901	98	100
4803902	95	97
4803903	101	105
4803904	100	105
4803905	94	99
4803906	98	107
4803907	94	98
Blank	101	103
LCS	100	102
MS	102	103
MSD	98	104

---

Limits: 80-138      55-130

Analysis Name: BTEX (8021)

Batch number: 06181A15A

Trifluorotoluene-p

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.

**Quality Control Summary**

**Client Name:** Tronox LLC  
**Reported:** 08/02/06 at 01:07 PM

**Group Number:** 995398

**Surrogate Quality Control**

---

4803908	103
Blank	104
LCS	102
LCSD	103
MS	103

---

**Limits:** 69-129

**Analysis Name:** BTEX (8021)  
**Batch number:** 06181A15B  
Trifluorotoluene-P

---

4803907	104
Blank	104
LCS	102
LCSD	103
MS	103

---

**Limits:** 69-129

**\*- Outside of specification**

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.

amt 11947 grp 995398 # 4803886+908

COC ID: COC4-06272006

# Chain of Custody Record



Page 1 of 1

Client Kerr McGee  
Site Name Moss American  
W. O. 02687.007.007.0001  
Lab LANCASTER LABS  
TAT

Contact Name Tom Green  
Contact Phone No. 847-918-4142  
Lab Contact C. SWEIGART  
Lab Phone 717-656-2308 X1527

	Sample Type	POA/POB						
	Container	Glass Vial						
	Preservative	HCl	N/A					
	Filtered							

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	3	2	1
	MAJ-FB-062706-1	W		N	6/27/2006 08:00	3		
	MAJ-FB-062706-2	W		N	6/27/2006 16:30	3	2	
	MAJ-MW27S-062706-1	W		N	6/27/2006 09:00	3		
	MAJ-MW27S-062706-2-DP	W		N	6/27/2006 09:00	3		
	MAJ-MW28S-062706-12	W		N	6/27/2006 15:00	3		
	MAJ-MW28S-062706-9	W		N	6/27/2006 13:50	3		
	MAJ-MW30S-062606-1	W		N	6/26/2006 16:30	3		
	MAJ-MW31S-062706-8	W		N	6/27/2006 10:40	3		
	MAJ-MW32S-062706-3	W		N	6/27/2006 09:10	3		
	MAJ-MW32S-062706-4-MSD	W		Y	6/27/2006 09:10	6		
	MAJ-MW33S-062706-3	W		N	6/27/2006 09:20	3		
	MAJ-MW34S-062706-15	W		N	6/27/2006 15:50	3		
	MAJ-MW35S-062706-13	W		N	6/27/2006 15:30	3		
	MAJ-MW35S-062706-14-DP	W		N	6/27/2006 15:30	3		
	MAJ-MW36S-062706-11	W		N	6/27/2006 14:30	3		
	MAJ-MW37S-062706-10	W		N	6/27/2006 14:10	3		
	MAJ-MW38S-062606-2	W		N	6/26/2006 16:45	3		
	MAJ-MW6S-062706-7	W		N	6/27/2006 10:30	3		
	MAJ-MW7S-062706-16	W		N	6/27/2006 16:10	3		
	MAJ-MW9S-062706-6	W		N	6/27/2006 10:10	3		

Remarks/Comments	Lab Use Only					Received in good condition <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
	COC Tape was present on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					Labels indicate Properly Preserved <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
Temp of Cooler when Received, C	1	2	3	4	5	COC Tape was unbroken on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
						COC Tape was present on sample <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
Sampled By	COC Tape was unbroken on sample <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					Received within Holding Time <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time			
<i>M. Castillo</i>	6/27/06 1600									

RECEIVED  
AUG 07 2006

*J. G. 6/28/06 0935*

~~amt 11947 qn 995398 #4803886-908~~

COC ID: COC3-06272008

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee  
**Site Name** Miss American  
**W. O.** 02687.007.007.0001  
**Lab** LANCASTER LABS  
**TAT** Per Quote

Contact Name : Tom Green  
Contact Phone No. : 847-918-4142  
Lab Contact : C. SWEGART  
Lab Phone : 717-658-2308 X1527

Remarks/Comments	Lab Use Only	COC Tape was present on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Received in good condition <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
	Temp of Cooler when Received, C	COC Tape was unbroken on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Labels indicate Properly Preserved <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
	1    2    3    4    5	COC Tape was present on sample <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Received within Holding Time <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
		COC Tape was unbroken on sample <input checked="" type="checkbox"/> Y <input type="checkbox"/> N						
	Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
Sampled By	<i>M. Castillo</i>	<i>62706/1800</i>						

annet 11947 qhp 995398 #4803886-908

COC ID: COC1-08272006

## **Chain of Custody Record**

**WESTON**

Page 1 of 1

**Client Kerr McGee**

**Site Name** Moss American

W. O. 02687.007.007.0001

Lab LANCASTER LABS

**TAT PER QUOTE**

Contact Name Tom Green

Contact Phone No. 847-918-4142

Lab Contact

Lab Philippe 717-856-2308 x1527

8310-PAHS

### Filtered

**Container** 0mL Amber

preservative

Remarks/Comments	Lab Use Only					COC Tape was present on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Received in good condition <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Labels indicate Properly Preserved <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
	1	2	3	4	5	COC Tape was present on sample <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Received within Holding Time <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
	Relinquished By		Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
Sampled By	<i>M. Castillo</i>		<i>6/27/06 1800</i>						

arrt 11947 910 995898 # 4803886-908

COC ID: COC2-08272008

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee  
**Site Name** Mesa American  
**W. O.** 02887.007.007.0001  
**Lab** LANCASTER LABS  
**TAT**

Contact Name Tom Graan  
Contact Phone No. 847-918-4142  
Lab Contact C. SWEIGART  
Lab Phone 717-658-2308 X1627

8310-PAHs							
Owl. Amber G							
N/A							

Remarks/Comments  M. Casilio  200	Lab Use Only					COC Tape was present on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Received in good condition <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Labels indicate Properly Preserved <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	1	2	3	4	5	COC Tape was present on sample <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Received within Holding Time <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
						COC Tape was unbroken on sample <input checked="" type="checkbox"/> Y <input type="checkbox"/> N			
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time		
John	6/27/04/000								

COC ID: COC1-0828-27200

## **Chain of Custody Record**



Page 1 of 1

Client Kerr McGee

**Site Name** Mois American

W. O. 02687 007 007 0001

16 LANCASTER LABS

TAT 2 weeks

Contact Name : Tom Grand

Contact Phone No. 847-918-4142

Lab Contact: G. SWEIGART

Lab Phone: 717-658-2308 X1527

**8310-PADS**

Filtered

Container 0mL Amber C

#### Preservative

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N		Received in good condition Y N	
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N		Labels indicate Properly Preserved Y N	
	1	2	3	4	5	COC Tape was present on sample Y N		Received within Holding Time Y N	
						COC Tape was unbroken on sample Y N			
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time		
<i>J. J. Al</i>	<i>6/27/06 1800</i>								
<i>M. Cest</i>									
<i>Sampled By</i>	<i>J. J. Al 6/27/06 0935</i>								

August 23, 2006

I have reviewed the analytical data provided by Lancaster Laboratories for the Moss American Site in Milwaukee, Wisconsin upon the information that was provided by the laboratory.

**Polynuclear Aromatic Hydrocarbons (PAHs by HPLC, U.S. EPA Method 8310)**  
**SDG # KMA83**

**1. Samples:**

Client Sample <u>Description:</u>	Lab Sample <u>Number</u>	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-FB-062806-19	4804567	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/01/06	07/08, 11
MA3-TG1-2-062806-17	4804570	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG4-2-062806-8-MS	4804580	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG4-2-062806-8-MSD	4804581	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG4-3-062806-9-DP	4804583	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	07/01/06	07/08/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	07/01/06	07/08/06

**2. Holding Times:**

The samples were extracted and analyzed within the required holding times. Samples 4804570 and 4804571 were re-extracted and re-analyzed past the required holding time. Samples results should be estimated as (J/UJ). Samples results for 4804570 and 4804571 reported from the first analysis 07/08/06.

**3. Method Blank:**

Two methods blanks were associated with this SDG. The method blank SBLKwj1812 was analyzed on 07/07/06 with samples 4804567, 4804569 thru 4804589 and 4804569DL and results were free of contamination.

The method blank SBLKWD1922 was analyzed on 07/13/06 with reanalyzed sample 4804570RE and 4804571RE and results were free of contamination.

**4. Surrogate:**

The method blanks and the investigated samples had surrogate recoveries within the required quality control limits, except triphenylene for samples 4804569 and in sample 4804569RE triphenylene were diluted out. No action was taken because the sample was reanalyzed and diluted and still had recoveries outside the required control limits due to the sample matrix.

**5. Matrix Spike/Matrix Spike Duplicate:**

A matrix spike was performed on sample 4804579. The MS/MSD associated with samples 4804567, 4804569 thru 4804579, 4804582 thru 4804589 and 4804569DL recoveries were within the acceptance quality control limits, except MSD for fluorene, fluoranthene, chrysene, benzo (a) fluoranthene and benzo (a) pyrene. No action was applied because the LCS recoveries were acceptable. However, the RPD% values were acceptable.

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at batch level and were associated with re-analyzed samples 4804570RE and 4804571RE.

**6. Laboratory Control Sample:**

The laboratory control sample associated with samples 4804567, 4804569 thru 4804589 and 4804569DL recoveries were within the acceptance quality control limits, except for fluorene and benzo (a) pyrene were outside the upper control limits. Therefore, qualify the detected results for fluorene and benzo (a) pyrene as estimated (J) for the associated samples 4804567, 4804569 thru 4804589 and 4804569DL.

The laboratory control sample/ laboratory control sample duplicate associated with samples 4804570RE and 4804571RE recoveries were within the acceptance quality control limits. Also, the RPD% values were acceptable.

**7. Retention Time:**

All the retention time results were acceptable.

**8. Initial and Continuing Calibration:**

The initial calibration and continuing calibration verification were all acceptable.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: naphthalene, acenaphthylene, 1-methylnaphthalene, 2-methylnaphthalene, fluorene, phenanthrene, and anthracene were taken from ultraviolet detector, and acenaphthene, fluoranthene, pyrene, benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, dibenzo (a, h) anthracene, benzo (g, h, i) perylene, and indeno (1, 2, 3-cd) pyrene were taken from fluorescence detector.

August 23, 2006

**BETX (U.S. EPA Method 8021B)**  
**SDG # MMA82**

**1. Samples:**

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-FB-062806-19	4804567	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TB-062806-2	4804568	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG1-2-062806-17	4804570	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG4-2-062806-8-MS	4804580	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG4-2-062806-8-MSD	4804581	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG4-3-062806-9-DP	4804583	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	07/06/06	07/06/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	07/05/06	07/05/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	07/05/06	07/05/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	07/05/06	07/05/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

**3. Method Blank:**

Two method blanks BLK1532 and BLK1533 were associated with this SDG. The method blank BLK1532 batch 06186A15A was analyzed on 07/05/06 with samples (4804587 thru 4804589) results were free of contamination.

The method blank BLK1533 batch 06187A15A was analyzed on 07/06/06 with samples 4804567 thru 4804579, 4804582 thru 4804586 results were free of contamination.

**4. Matrix Spike:**

The laboratory performed matrix spike on sample 4803999 from different SDG and associated with batch 06186A15A. The MS recoveries were within the quality control limits.

The laboratory performed matrix spike on sample 4804579 associated with batch 06187A15. The MS/MSD recoveries were within the quality control limits. Also, the RPD% values were acceptable.

August 23, 2006

**5. Laboratory Control Sample:**

The laboratory control sample/ laboratory control sample duplicate associated with batch 06180A15 recoveries were within the acceptance quality control limits. Also, the RPD% values were acceptable.

The laboratory control sample/ laboratory control sample duplicate associated with batch 06187A15 recoveries were within the acceptance quality control limits. Also, the RPD% values were acceptable.

**6. Surrogate:**

The method blanks and the investigated samples had surrogate recoveries within the required quality control limits.

**7. Initial and Continuing Calibration:**

All the initial calibration and continuing calibration results were within the quality control limits.

**WET CHEMISTRY ANALYSIS**  
**Kjeldahl Nitrogen Analysis (TKN):**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Digested</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	07/06/06	07/07/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	07/12/06	07/12/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	07/12/06	07/12/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	07/14/06	07/17/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	07/12/06	07/12/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	07/12/06	07/12/06

**2. Method Blank:**

The three method blanks associated with this SDG analyzed on 07/07/06, 07/12/06 and 07/17/06 results were free of contamination.

**3. Matrix Spike Recovery:**

Five matrix spikes were associated with this SDG. They were performed on the following samples: 4804569, 4804584, 4804589 and the other two from different SDG P803197 and P799801. All matrix spikes recoveries were within the laboratory control limits, except for samples 4804584MS 4804589MS and P799801MS recoveries were outside the lower control limits (90-110%). Therefore, qualify the associated samples 4804579 and 4804582 as (J-/UJ)

**4. Duplicate Recovery:**

Five duplicates were associated with this SDG results were acceptable.

**5. Laboratory Control Sample Recovery:**

The three laboratories control samples recoveries were within the acceptance control limits.

**6. Initial and Continuing Calibration Verification:**

The initial and continuing calibrations recoveries were all within the control limits.

**7. Initial and Continuing Calibration Blanks:**

The initial and continuing calibration blanks results were free of contamination.

**Nitrite Nitrogen Analysis:**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/29/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/29/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	06/29/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	06/29/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	06/29/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	06/29/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	06/29/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	06/29/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	06/29/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	06/29/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	06/29/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	06/29/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	06/29/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	06/29/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	06/29/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	06/29/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	06/29/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	06/29/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

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**3. Method Blank:**

Two method blanks were associated with this SDG and analyzed on 06/29/06 results were free of contamination.

**4. Matrix Spike Recovery:**

Three matrix spikes were associated with this SDG. They were performed on the following samples: P804512, 4804579 and 4804588. All matrix spikes recoveries were within the control limits.

**5. Laboratory Control Sample Recovery:**

The two laboratories control samples recoveries were within the acceptance control limits.

**6. Duplicate Recovery:**

Three duplicates were associated with this SDG results were acceptable.

**7. Initial and Continuing Calibration Verification:**

The initial and continuing calibrations recoveries were all within the control limits.

**8. Initial and Continuing Calibration Blanks:**

The initial and continuing calibration blanks results were free of contamination.

**Nitrate Nitrogen Analysis:**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/05/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/05/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	07/05/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	07/05/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	07/05/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	07/05/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	07/05/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	07/05/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	07/05/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	07/05/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	07/05/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	07/05/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	07/07/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	07/05/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	07/05/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	07/07/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	07/05/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	07/07/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

**3. Method Blank:**

Two method blanks were associated with this SDG and analyzed on 07/05 and 07/07/06/06 results were free of contamination.

**4. Matrix Spike Recovery:**

Four matrix spikes were associated with this SDG. They were performed on the following samples: 4804570, 4804588, 4804577 and 4804578. All matrix spikes recoveries were within the control limits, except for samples 4804570MS and 4804577MS recoveries were outside the lower control limits (90-110%). Therefore, qualify the associated results as (J-/UJ) for samples 4804571 thru 4804576, 4804584, 4804596, and 4804577 thru 4804579, 4804582, 4804587 and 4804588.

**5. Duplicate Recovery:**

Four duplicates were associated with this SDG results were acceptable.

**6. Laboratory Control Sample:**

The two laboratories control samples recoveries were within the acceptance control limits.

**7. Initial and Continuing Calibration Verification:**

The initial and continuing calibrations recoveries were all within the control limits.

**8. Initial and Continuing Calibration Blanks:**

The initial and continuing calibration blanks results were free of contamination.

**Total Phosphorus as (PO4):**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	06/30/06	07/03/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	06/30/06	07/03/06

**2. Holding Times:**

All samples were prepared and analyzed within the required holding times.

**3. Method Blank:**

The method blank associated with this SDG analyzed on 07/03/06 and results were free of contamination.

**4. Matrix Spike Recovery:**

Two matrix spikes were associated with this SDG. The matrix spike 4804569MS recoveries within the acceptance control limits. However, the 4804579MS recoveries were outside the upper control limits. Therefore, qualify the associated detected results as estimated (J) for samples 4804577, 4804578, 4804582, 4804584 thru 4804589.

**5. Duplicate Recovery:**

Two duplicates were associated with this SDG results were acceptable.

**6. Laboratory Control Sample Recovery:**

The laboratory control sample recovery was within the acceptance control limits.

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**7. Initial and Continuing Calibration Verification:**

The initial and continuing calibrations recoveries were all within the control limits.

**8. Initial and Continuing Calibration Blanks:**

The initial and continuing calibration blanks results were free of contamination.

**Total Organic Carbon Analysis (TOC):**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/03/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/03/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	07/03/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	07/03/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	07/13/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	07/13/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	07/13/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	07/13/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	07/13/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	07/13/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	07/13/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	07/05/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	07/05/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	07/05/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	07/05/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	07/05/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	07/05/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	07/05/06

**2. Method Blank:**

Three method blanks were associated with this SDG and analyzed on 07/03/06; 07/13/06 and 07/17/06 results were free of contamination.

**3. Matrix Spike/Matrix Spike Duplicate :**

Four matrix spikes were associated with this SDG. The four matrix spikes 4804588MS, 4804579, P803823 and P804579 recoveries within the acceptance control limits.

**4. Duplicate Recovery:**

Four duplicates were associated with this SDG results were acceptable.

**5. Laboratory Control Sample Recovery:**

The three laboratories control samples recoveries were within the control limits.

**6. Initial and Continuing Calibration Verification:**

The initial and continuing calibrations recoveries were all within the control limits.

**7. Initial and Continuing Calibration Blanks:**

The initial and continuing calibration blanks results were free of contamination.

**Ammonia Nitrogen Analysis:**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/10/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/10/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	07/10/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	07/10/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	07/10/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	07/10/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	07/10/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	07/10/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	07/10/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	07/10/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	07/10/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	07/10/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	07/10/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	07/10/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	07/10/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	07/10/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	07/10/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	07/11/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

**3. Method Blank:**

The two method blanks associated with this SDG results were free of contamination.

**4. Duplicate Recovery:**

The two duplicates results were acceptable.

**5. Laboratory Control Sample Recovery:**

The two laboratories control samples/laboratories control samples duplicates recoveries were within the control limits. Also, the RPD% values were acceptable.

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**Ortho-Phosphate as P Analysis:**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/30/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/30/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	06/30/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	06/30/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	06/30/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	06/30/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	06/30/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	06/30/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	06/30/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	06/30/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	06/30/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	06/30/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	06/30/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	06/30/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	06/30/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	06/30/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	06/30/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	06/30/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

**3. Method Blank:**

The two method blanks associated with this SDG results were free of contamination.

**4. Matrix Spike Recovery:**

Two matrix spikes were associated with this SDG and performed on samples 4804584 and 4804589. Both MS/MSD recoveries were within the acceptance control limits. Also, the (RPD %) values were acceptable.

**5. Duplicate Recovery:**

The two duplicates results were acceptable.

**6. Laboratory Control Sample Recovery:**

The two laboratories control samples recoveries were within the acceptance control limits.

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**Biochemical Oxygen Demand Analysis (BOD):**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/29/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	06/29/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	06/29/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	06/29/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	06/29/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	06/29/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	06/29/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	06/29/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	06/29/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	06/29/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	06/29/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	06/29/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	06/29/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	06/29/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	06/29/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	06/29/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	06/29/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	06/29/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

**3. Matrix Spike Recovery:**

A matrix spike was performed on sample 4804584. The MS/MSD recoveries were within the acceptance control limits. Also, the (RPD %) values were acceptable.

**4. Duplicate Recovery:**

The duplicate result was acceptable.

**5. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery:**

The laboratory control sample/laboratory control sample duplicate recoveries were within the acceptance control limits. Also, the RPD% value was acceptable.

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**Chemical Oxygen Demand Analysis (COD):**

**SDG # MMA83**

**1. Samples:**

<u>Client Code</u>	<u>Lab Sample Number</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/02/06
MA3-TG1-1-062806-16	4804569	Grab G-water	06/28/06	07/02/06
MA3-TG1-3-062806-18	4804571	Grab G-water	06/28/06	07/02/06
MA3-TG2-1-062806-13	4804572	Grab G-water	06/28/06	07/02/06
MA3-TG2-2-062806-14	4804573	Grab G-water	06/28/06	07/02/06
MA3-TG2-3-062806-15	4804574	Grab G-water	06/28/06	07/02/06
MA3-TG3-1-062806-10	4804575	Grab G-water	06/28/06	07/02/06
MA3-TG3-2-062806-11	4804576	Grab G-water	06/28/06	07/02/06
MA3-TG3-3-062806-12	4804577	Grab G-water	06/28/06	07/02/06
MA3-TG4-1-062806-7	4804578	Grab G-water	06/28/06	07/02/06
MA3-TG4-2-062806-8	4804579	Grab G-water	06/28/06	07/02/06
MA3-TG4-3-062806-9	4804582	Grab G-water	06/28/06	07/08/06
MA3-TG5-1-062806-1	4804584	Grab G-water	06/28/06	07/08/06
MA3-TG5-2-062806-2	4804585	Grab G-water	06/28/06	07/14/06
MA3-TG5-3-062806-3	4804586	Grab G-water	06/28/06	07/08/06
MA3-TG6-1-062806-4	4804587	Grab G-water	06/28/06	07/08/06
MA3-TG6-2-062806-5	4804588	Grab G-water	06/28/06	07/08/06
MA3-TG6-3-062806-6	4804589	Grab G-water	06/28/06	07/08/06

**2. Holding Times:**

All samples were analyzed within the required holding times.

**3. Matrix Spike Recovery:**

Three matrix spikes were associated with this SDG and performed on samples P809294, P801936 and 4804579. Both MS/MSD recoveries were within the acceptance control limits. Also, the (RPD %) values were acceptable.

**4. Duplicate Recovery:**

The three duplicates results were acceptable.

**5. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery:**

The three laboratories control samples recoveries were within the acceptance control limits.

Data Reviewed by: Tania Shammo

08/24/06



## ANALYTICAL RESULTS

Prepared for:

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

405-775-5429

Prepared by:

Lancaster Laboratories  
 2425 New Holland Pike  
 Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 995493. Samples arrived at the laboratory on Thursday, June 29, 2006. The PO# for this group is ZAKW1KEOK0A90089.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MA3-FB-062806-19	4804567
MA3-TB-062806-2	4804568
MA3-TG1-1-062806-16	4804569
MA3-TG1-2-062806-17	4804570
MA3-TG1-3-062806-18	4804571
MA3-TG2-1-062806-13	4804572
MA3-TG2-2-062806-14	4804573
MA3-TG2-3-062806-15	4804574
MA3-TG3-1-062806-10	4804575
MA3-TG3-2-062806-11	4804576
MA3-TG3-3-062806-12	4804577
MA3-TG4-1-062806-7	4804578
MA3-TG4-2-062806-8	4804579
MA3-TG4-2-062806-8-MS	4804580
MA3-TG4-2-062806-8-MSD	4804581
MA3-TG4-3-062806-9	4804582
MA3-TG4-3-062806-9-DP	4804583
MA3-TG5-1-062806-1	4804584
MA3-TG5-2-062806-2	4804585
MA3-TG5-3-062806-3	4804586
MA3-TG6-1-062806-4	4804587
MA3-TG6-2-062806-5	4804588
MA3-TG6-3-062806-6	4804589

METHODOLOGY



The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO            Weston Solutions, Inc.  
ELECTRONIC        Tronox LLC  
COPY TO  
1 COPY TO            Data Package Group

Attn: Tom Graan  
Attn: Roy Widmann

Questions? Contact your Client Services Representative  
Gwen A Birchall at (717) 656-2300

Respectfully Submitted,

A handwritten signature in cursive ink that reads "Barbara F. Reedy".

Barbara F. Reedy  
Senior Specialist



Page 1 of 2

Lancaster Laboratories Sample No. WW 4804567

MA3-FB-062806-19      Groundwater  
 10,14-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 17:30

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

MFB28 SDG#: KMA83-01FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method. Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.96	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.085	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.085	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4804567

MA3-FB-062806-19                   Groundwater  
10,14-062806                       02687.007.007.0001  
Moss American  
Collected: 06/28/2006 17:30

Submitted: 06/29/2006 10:15  
Reported: 08/03/2006 at 15:22  
Discard: 10/03/2006

Account Number: 11947

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

MFB28 SDG#: KMA83-01FB  
08213 BTEX (8021)                   SW-846 8021B  
00774 PAH's in Water by HPLC      SW-846 8310  
01146 GC VOA Water Prep             SW-846 5030B  
03337 PAH Water Extraction         SW-846 3510C

1	07/06/2006 12:13	Steven A Skiles	1
1	07/08/2006 00:52	Mark A Clark	1
1	07/06/2006 12:13	Steven A Skiles	1
1	07/01/2006 15:30	Emma L Eck	1



Page 1 of 1

Lancaster Laboratories Sample No. WW 4804568

MA3-TB-062806-2                   Groundwater  
 14-062806                         02687.007.007.0001  
 Moss American

Collected: 06/28/2006 18:35

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox, LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

MTB-2 SDG#: KMA83-02TB

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 12:42	Steven A Skiles	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 12:42	Steven A Skiles	1



Lancaster Laboratories Sample No. WW. 4804569

MA3-TG1-1-062806-16      Groundwater  
 8,10,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 16:45

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M1116 SDG#: KMA83-03

CAT No.	Analysis Name	CAS Number	As Received		Method Detection Limit	Units	Dilution Factor
			Result				
00217	Kjeldahl Nitrogen	7727-37-9	0.63	J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.		0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.		0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.85		0.20	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.		0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		4.5	mg/l	1
00273	Total Organic Carbon	n.a.	7.8		1.0	mg/l	1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.		0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	33.3		2.6	mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		1.0	ug/l	5
00777	Toluene	108-88-3	N.D.		1.0	ug/l	5
00778	Ethylbenzene	100-41-4	8.4		1.0	ug/l	5
00779	Total Xylenes	1330-20-7	13.	J	3.0	ug/l	5
Due to the nature of the sample matrix, normal reporting limits were not attained.							
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	1,100.		28.	ug/l	20
00782	Acenaphthylene	208-96-8	48.		1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.		250.	ug/l	1
00784	Fluorene	86-73-7	160.		11.	ug/l	20
00785	Phenanthrene	85-01-8	260.		1.7	ug/l	20
00789	Anthracene	120-12-7	25.		0.86	ug/l	20
00807	Fluoranthene	206-44-0	94.		0.86	ug/l	20
00811	Pyrene	129-00-0	73.		3.9	ug/l	20
00812	Benzo(a)anthracene	56-55-3	15.		0.43	ug/l	20
00818	Benzo(b)fluoranthene	205-99-2	5.6		0.86	ug/l	20
00823	Benzo(a)pyrene	50-32-8	5.6		0.43	ug/l	20
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	3.2		0.086	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	2.3		0.11	ug/l	1
07409	Chrysene	218-01-9	12.		0.086	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	3.1		0.022	ug/l	1
Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.							



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Lancaster Laboratories Sample No. WW 4804569

MA3-TG1-1-062806-16 Groundwater  
 8,10,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 16:45

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M1116 SDG#: KMA83-03

CAT No.	Analysis Name	CAS Number	As Received		Method	Detection Limit	Units	Dilution Factor
			Result					

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for acenaphthene. The reporting limit for this compound was raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 11:52		Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 20:48		Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:25		Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15		Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20		Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43		Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/03/2006 21:12		James S Mathiot	1
00345	Total Phosphorus as PO <sub>4</sub> water	EPA 365.1	1	07/03/2006 19:26		Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50		Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 13:12		Steven A Skiles	5
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 01:31		Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/11/2006 10:29		Mark A Clark	20
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 13:12		Steven A Skiles	5
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50		Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30		Emma L Eck	1
08264	Total Phos as PO <sub>4</sub> Prep (water)	EPA 365.1	1	06/30/2006 16:00		Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804570

MA3-TG1-2-062806-17 Groundwater  
 8,10,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 16:55

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M1217 SDG#: KMA83-04

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	1.5	0.50	mg/l 1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l 1
00220	Nitrate Nitrogen	14797-55-8	0.066 J	0.040	mg/l 1
00221	Ammonia Nitrogen	7664-41-7	1.3	0.20	mg/l 1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l 1
00235	Biochemical Oxygen Demand	n.a.	N.D.	5.3	mg/l 1
00273	Total Organic Carbon	n.a.	9.7	1.0	mg/l 1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l 1
01553	Chemical Oxygen Demand	n.a.	32.9	2.6	mg/l 1
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l 1
00777	Toluene	108-88-3	N.D.	0.2	ug/l 1
00778	Ethylbenzene	100-41-4	0.2 J	0.2	ug/l 1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l 1
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	55.	1.4	ug/l 1
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l 1
00783	Acenaphthene	83-32-9	39.	1.0	ug/l 1
00784	Fluorene	86-73-7	19.	0.55	ug/l 1
00785	Phenanthrene	85-01-8	8.7	0.089	ug/l 1
00789	Anthracene	120-12-7	1.3	0.044	ug/l 1
00807	Fluoranthene	206-44-0	2.0	0.044	ug/l 1
00811	Pyrene	129-00-0	1.3	0.20	ug/l 1
00812	Benzo(a)anthracene	56-55-3	0.061 J	0.022	ug/l 1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l 1
00823	Benzo(a)pyrene	50-32-8	0.033 J	0.022	ug/l 1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l 1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l 1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l 1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l 1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l 1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



Page 2 of 2

Lancaster Laboratories Sample No. WW 4804570

MA3-TG1-2-062806-17 Groundwater  
 8,10,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 16:55

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M1217 SDG#: KMA83-04

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 11:56	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 20:49	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:09	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/03/2006 21:23	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:29	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 13:42	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 02:10	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 13:42	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



Lancaster Laboratories Sample No. WW 4804571

MA3-TG1-3-062806-18 Groundwater  
 10,11,13,14-062806 02687.007.0001  
 Moss American  
 Collected: 06/28/2006 17:15

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M1318 SDG#: KMA83-05

CAT No.	Analysis Name	CAS Number	As Received		Method Detection Limit	Units	Dilution Factor
			Result				
00217	Kjeldahl Nitrogen	7727-37-9	1.6		0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.		0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.		0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.7		0.20	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.		0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		3.2	mg/l	1
00273	Total Organic-Carbon	n.a.	10.1		1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.		0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	30.2		2.6	mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.		1.3	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.4	ug/l	1
00783	Acenaphthene	83-32-9	2.5	J	0.93	ug/l	1
00784	Fluorene	86-73-7	0.69	J	0.52	ug/l	1
00785	Phenanthrene	85-01-8	N.D.		0.082	ug/l	1
00789	Anthracene	120-12-7	0.063	J	0.041	ug/l	1
00807	Fluoranthene	206-44-0	0.24		0.041	ug/l	1
00811	Pyrene	129-00-0	N.D.		0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.082	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.082	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.021	ug/l	1

State of Wisconsin Lab Certification No. EN 748



Lancaster Laboratories Sample No. WW 4804571

MA3-TG1-3-062806-18      Groundwater  
 10,11,13,14-062806      02687.007.007.0001  
 Moss American

Collected: 06/28/2006 17:15

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M1318 SDG#: KMA83-05

CAT No.	Analysis Name	CAS Number	As Received	Method	Units	Dilution Factor
			Result	Detection Limit		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 11:57	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 20:51	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:10	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/03/2006 21:34	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:30	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 14:11	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 02:49	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 14:11	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804572

MA3-TG2-1-062806-13 Groundwater  
 8,9,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 15:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M2113 SDG#: KMA83-06

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	0.50	mg/l 1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l 1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l 1
00221	Ammonia Nitrogen	7664-41-7	0.27 J	0.20	mg/l 1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l 1
00235	Biochemical Oxygen Demand	n.a.	N.D.	1.5	mg/l 1
00273	Total Organic-Carbon	n.a.	2.2	1.0	mg/l 1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l 1
01553	Chemical Oxygen Demand	n.a.	9.5	2.6	mg/l 1
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l 1
00777	Toluene	108-88-3	N.D.	0.2	ug/l 1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l 1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l 1
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.5	ug/l 1
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l 1
00783	Acenaphthene	83-32-9	N.D.	1.0	ug/l 1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l 1
00785	Phenanthrene	85-01-8	N.D.	0.090	ug/l 1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l 1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l 1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l 1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.023	ug/l 1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l 1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l 1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l 1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.090	ug/l 1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l 1
07409	Chrysene	218-01-9	N.D.	0.090	ug/l 1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l 1

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804572

MA3-TG2-1-062806-13      Groundwater  
 8,9,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 15:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M2113 SDG#: KMA83-06

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 11:58	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 20:52	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:11	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/03/2006 21:45	James S Mathiot	1
00345	Total Phosphorus as PO <sub>4</sub> water	EPA 365.1	1	07/03/2006 19:31	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 14:41	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 03:27	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 14:41	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO <sub>4</sub> Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804573

MA3-TG2-2-062806-14 Groundwater  
 8,9,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 15:55

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M2214 SDG#: KMA83-07

CAT No.	Analysis Name	CAS Number	As Received		Method Detection Limit	Units	Dilution Factor
			Result				
00217	Kjeldahl Nitrogen	7727-37-9	0.53	J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.		0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	0.058	J	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.48	J	0.20	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.		0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		1.7	mg/l	1
00273	Total Organic Carbon	n.a.	2.5		1.0	mg/l	1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.		0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	8.7		2.6	mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.		1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.		0.99	ug/l	1
00784	Fluorene	86-73-7	N.D.		0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.		0.088	ug/l	1
00789	Anthracene	120-12-7	N.D.		0.044	ug/l	1
00807	Fluoranthene	206-44-0	0.046	J	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.		0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.088	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.088	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804573

MA3-TG2-2-062806-14 Groundwater  
 8,9,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 15:55

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M2214 SDG#: KMA83-07

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units:	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 11:59	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 20:53	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:13	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	2	07/13/2006 10:06	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:33	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 15:10	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 04:45	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 15:10	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos' as PO4 Prep. (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



Lancaster Laboratories Sample No. WW 4804574

MA3-TG2-3-062806-15      Groundwater  
 8,9,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 16:05

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M2315 SDG#: KMA83-08

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	1.5	0.50	mg/l 1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l 1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l 1
00221	Ammonia Nitrogen	7664-41-7	1.6	0.20	mg/l 1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l 1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.7	mg/l 1
00273	Total Organic Carbon	n.a.	10.9	1.0	mg/l 1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l 1
01553	Chemical Oxygen Demand	n.a.	31.7	2.6	mg/l 1
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l 1
00777	Toluene	108-88-3	N.D.	0.2	ug/l 1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l 1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l 1
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l 1
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l 1
00783	Acenaphthene	83-32-9	N.D.	1.0	ug/l 1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l 1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l 1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l 1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l 1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l 1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l 1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l 1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l 1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l 1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l 1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l 1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l 1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l 1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804574

MA3-TG2-3-062806-15      Groundwater  
 8,9,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 16:05

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M2315 SDG#: KMA83-08

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Method	Result	

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 12:00	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 20:54	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:14	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	2	07/13/2006 10:14	James S Mathiot	1
00345	Total Phosphorus as PO <sub>4</sub> water	EPA 365.1	1	07/03/2006 19:34	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 15:40	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 05:24	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 15:40	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO <sub>4</sub> Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804575

MA3-TG3-1-062806-10      Groundwater  
 4,9,13,14-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 14:00

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M3110 SDG#: KMA83-09

CAT No.	Analysis Name	CAS Number	As Received		Method	Units	Dilution Factor
			Result	Detection Limit			
00217	Kjeldahl Nitrogen	7727-37-9	0.72	J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.20	mg/l	1	
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1	
00235	Biochemical Oxygen Demand	n.a.	N.D.	1.8	mg/l	1	
00273	Total Organic Carbon	n.a.	9.4	1.0	mg/l	1	
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l	1	
01553	Chemical Oxygen Demand	n.a.	26.2	2.6	mg/l	1	
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1	
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1	
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1	
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1	
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1	
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1	
00783	Acenaphthène	83-32-9	N.D.	0.95	ug/l	1	
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1	
00785	Phenanthrene	85-01-8	N.D.	0.084	ug/l	1	
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1	
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1	
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1	
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1	
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1	
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1	
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l	1	
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.084	ug/l	1	
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1	
07409	Chrysene	218-01-9	N.D.	0.084	ug/l	1	
07410	Benzo(k)fluoranthène	207-08-9	N.D.	0.021	ug/l	1	

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804575

MA3-TG3-1-062806-10 Groundwater  
 4,9,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 14:00

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M3110 SDG#: KMA83-09

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 12:00	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:03	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:15	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	2	07/13/2006 10:22	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:35	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 16:10	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 06:03	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 16:10	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW. 4804576

MA3-TG3-2-062806-11      Groundwater  
 4,9,13,14-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 14:20

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M3211 SDG#: KMA83-10

CAT No.	Analysis Name	CAS Number	As Received		Method	Units	Dilution Factor
			Result	Detection Limit			
00217	Kjeldahl Nitrogen	7727-37-9	0.94 J	0.50	mg/l	1	
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1	
00221	Ammonia Nitrogen	7664-41-7	0.81	0.20	mg/l	1	
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1	
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.4	mg/l	1	
00273	Total Organic Carbon	n.a.	8.6	1.0	mg/l	1	
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l	1	
01553	Chemical Oxygen Demand	n.a.	24.2	2.6	mg/l	1	
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1	
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1	
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1	
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1	
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.	1.6	ug/l	1	
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1	
00783	Acenaphthene	83-32-9	N.D.	1.1	ug/l	1	
00784	Fluorene	86-73-7	N.D.	0.63	ug/l	1	
00785	Phenanthrene	85-01-8	N.D.	0.10	ug/l	1	
00789	Anthracene	120-12-7	N.D.	0.050	ug/l	1	
00807	Fluoranthene	206-44-0	N.D.	0.050	ug/l	1	
00811	Pyrene	129-00-0	N.D.	0.23	ug/l	1	
00812	Benzo(a)anthracene	56-55-3	N.D.	0.025	ug/l	1	
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.050	ug/l	1	
00823	Benzo(a)pyrene	50-32-8	N.D.	0.025	ug/l	1	
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.050	ug/l	1	
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.10	ug/l	1	
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.13	ug/l	1	
07409	Chrysene	218-01-9	N.D.	0.10	ug/l	1	
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.025	ug/l	1	

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804576

MA3-TG3-2-062806-11      Groundwater  
 4,9,13,14-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 14:20

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:22  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M3211 SDG#: KMA83-10

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 12:01	Nicole M. Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:04	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:16	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	2	07/13/2006 10:30	James S Mathiot	1
00345	Total Phosphorus as PO <sub>4</sub> water	EPA 365.1	1	07/03/2006 19:36	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 16:39	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 06:42	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 16:39	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO <sub>4</sub> Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW. 4804577

MA3-TG3-3-062806-12      Groundwater  
 4,6,13,14-062806      02687.007.007.0001  
 Moss American

Collected: 06/28/2006 14:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M3312 SDG#: KMA83-11

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	1.6	0.50	mg/l
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l
00221	Ammonia Nitrogen	7664-41-7	2.0	0.20	mg/l
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l
00235	Biochemical Oxygen Demand	n.a.	12.7	0.80	mg/l
00273	Total Organic-Carbon	n.a.	9.9	1.0	mg/l
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l
01553	Chemical Oxygen Demand	n.a.	28.6	2.6	mg/l
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l
00777	Toluene	108-88-3	N.D.	0.2	ug/l
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.5	ug/l
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l
00783	Acenaphthene	83-32-9	N.D.	1.0	ug/l
00784	Fluorene	86-73-7	N.D.	0.57	ug/l
00785	Phenanthrene	85-01-8	N.D.	0.091	ug/l
00789	Anthracene	120-12-7	N.D.	0.045	ug/l
00807	Fluoranthene	206-44-0	0.064 J	0.045	ug/l
00811	Pyrene	129-00-0	N.D.	0.20	ug/l
00812	Benzo(a)anthracene	56-55-3	N.D.	0.023	ug/l
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.091	ug/l
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l
07409	Chrysene	218-01-9	N.D.	0.091	ug/l
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804577

MA3-TG3-3-062806-12      Groundwater  
 4,6,13,14-062806      02687.007.007.0001  
 Moss-American  
 Collected: 06/28/2006 14:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M3312 SDG#: KMA83-11

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 12:02	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:06	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	2	07/07/2006 15:13	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	2	07/13/2006 10:38	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:40	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/02/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 18:08	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 07:20	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 18:08	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804578

MA3-TG4-1-062806-7      Groundwater  
 4,6,13,14-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 12:15

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M4107 SDG#: KMA83-12

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	1.0	0.50	mg/l 1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l 1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l 1
00221	Ammonia Nitrogen	7664-41-7	0.72	0.20	mg/l 1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l 1
00235	Biochemical Oxygen Demand	n.a.	N.D.	1.9	mg/l 1
00273	Total Organic-Carbon	n.a.	9.2	1.0	mg/l 1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l 1
01553	Chemical Oxygen Demand	n.a.	24.9	2.6	mg/l 1
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l 1
00777	Toluene	108-88-3	N.D.	0.2	ug/l 1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l 1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l 1
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l 1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l 1
00783	Acenaphthene	83-32-9	N.D.	0.98	ug/l 1
00784	Fluorene	86-73-7	N.D.	0.54	ug/l 1
00785	Phenanthrene	85-01-8	N.D.	0.087	ug/l 1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l 1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l 1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l 1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l 1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l 1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l 1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l 1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.087	ug/l 1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l 1
07409	Chrysene	218-01-9	N.D.	0.087	ug/l 1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l 1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804578

MA3-TG4-1-062806-7      Groundwater  
 4,6,13,14-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 12:15

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M4107 SDG#: KMA83-12

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 12:03	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:07	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	2	07/07/2006 15:14	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	2	07/13/2006 10:46	James S Mathiot	1
00345	Total Phosphorus as PO <sub>4</sub> water	EPA 365.1	1	07/03/2006 19:41	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 18:38	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 07:59	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 18:38	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO <sub>4</sub> Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804579

MA3-TG4-2-062806-8 Groundwater  
 3,4,6,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 12:25

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M4208 SDG#: KMA83-13BKG

CAT No.	Analysis Name	CAS Number	As Received		Method	Units	Dilution Factor
			Result	Detection Limit			
00217	Kjeldahl Nitrogen	7727-37-9	0.85	J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.		0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.		0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.85		0.20	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.		0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		2.8	mg/l	1
00273	Total Organic Carbon	n.a.	10.3		1.0	mg/l	1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.		0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	28.9		2.6	mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.		1.6	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.		1.1	ug/l	1
00784	Fluorene	86-73-7	N.D.		0.63	ug/l	1
00785	Phenanthrene	85-01-8	N.D.		0.10	ug/l	1
00789	Anthracene	120-12-7	N.D.		0.050	ug/l	1
00807	Fluoranthene	206-44-0	0.23	J	0.050	ug/l	1
00811	Pyrene	129-00-0	N.D.		0.23	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.025	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.050	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.025	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.050	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.10	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.13	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.10	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.025	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804579

MA3-TG4-2-062806-8      Groundwater  
 3,4,6,13,14-062806      02687.007.007.0001  
 Moss American

Collected: 06/28/2006 12:25

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M4208 SDG#: KMA83-13BKG

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 13:56	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:08	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	2	07/07/2006 15:15	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	2	07/13/2006 10:54	James S Mathiot	1
00345	Total Phosphorus as PO <sub>4</sub> water	EPA 365.1	1	07/03/2006 19:42	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 19:08	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/07/2006 22:56	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 19:08	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO <sub>4</sub> Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804580

MA3-TG4-2-062806-8-MS Groundwater  
 3,11-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 12:25

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M4208 SDG#: KMA83-13MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	19.	0.2	ug/l	1
00777	Toluene	108-88-3	20.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	20.	0.2	ug/l	1
00779	Total Xylenes -	1330-20-7	60.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	220.	1.6	ug/l	1
00782	Acenaphthylene	208-96-8	230.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	230.	1.1	ug/l	1
00784	Fluorene	86-73-7	25.	0.63	ug/l	1
00785	Phenanthrene	85-01-8	7.6	0.10	ug/l	1
00789	Anthracene	120-12-7	3.7	0.050	ug/l	1
00807	Fluoranthene	206-44-0	4.0	0.050	ug/l	1
00811	Pyrene	129-00-0	25.	0.23	ug/l	1
00812	Benz(a)anthracene	56-55-3	2.0	0.025	ug/l	1
00818	Benz(b)fluoranthene	205-99-2	1.6	0.050	ug/l	1
00823	Benz(a)pyrene	50-32-8	2.1	0.025	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	3.9	0.050	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	7.8	0.10	ug/l	1
00907	Benz(g,h,i)perylene	191-24-2	15.	0.13	ug/l	1
07409	Chrysene	218-01-9	7.6	0.10	ug/l	1
07410	Benz(k)fluoranthene	207-08-9	1.6	0.025	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly..

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4804580

MA3-TG4-2-062806-8-MS Groundwater  
3,11-062806 02687.007.007.0001  
Moss American  
Collected: 06/28/2006 12:25

Submitted: 06/29/2006 10:15  
Reported: 08/03/2006 at 15:23  
Discard: 10/03/2006

Account Number: 11947

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

M4208 SDG#: KMA83-13MS  
08213 BTEX (8021) SW-846 8021B 1 07/06/2006 19:37 Steven A Skiles 1  
00774 PAH's in Water by HPLC SW-846 8310 1 07/07/2006 23:34 Mark A Clark 1  
01146 GC VOA Water Prep SW-846 5030B 1 07/06/2006 19:37 Steven A Skiles 1  
03337 PAH Water Extraction SW-846 3510C 1 07/01/2006 15:30 Emma L Eck 1



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Lancaster Laboratories Sample No. WW 4804581

MA3-TG4-2-062806-8-MSD Groundwater  
3,11-062806 02687.007.007.0001

Moss American

Collected: 06/28/2006 12:25

Account Number: 11947

Submitted: 06/29/2006 10:15  
Reported: 08/03/2006 at 15:23  
Discard: 10/03/2006Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

M4208 SDG#: KMA83-13MSD

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Result	Method Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	18.	0.2	ug/l	1
00777	Toluene	108-88-3	19.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	19.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	57.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	240.	1.6	ug/l	1
00782	Acenaphthylene	208-96-8	250.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	250.	1.1	ug/l	1
00784	Fluorene	86-73-7	26.	0.63	ug/l	1
00785	Phenanthrene	85-01-8	8.0	0.10	ug/l	1
00789	Anthracene	120-12-7	3.8	0.050	ug/l	1
00807	Fluoranthene	206-44-0	4.2	0.050	ug/l	1
00811	Pyrene	129-00-0	26.	0.23	ug/l	1
00812	Benzo(a)anthracene	56-55-3	2.0	0.025	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.6	0.050	ug/l	1
00823	Benzo(a)pyrene	50-32-8	2.1	0.025	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	4.0	0.050	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	7.9	0.10	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	16.	0.13	ug/l	1
07409	Chrysene	218-01-9	7.8	0.10	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.6	0.025	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4804581

MA3-TG4-2-062806-8-MSD Groundwater  
3,11-062806 02687.007.007.0001  
Moss American  
Collected: 06/28/2006 12:25

Submitted: 06/29/2006 10:15  
Reported: 08/03/2006 at 15:23  
Discard: 10/03/2006

Account Number: 11947

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

M4208	SDG#: KMA83-13MSD						
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006	20:07	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006	00:13	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006	20:07	Steven A Skiles	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006	15:30	Emma L Eck	1



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Lancaster Laboratories Sample No. WW. 4804582

MA3-TG4-3-062806-9      Groundwater  
 3,6,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 12:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M4309 SDG#: KMA83-14

CAT No.	Analysis Name	CAS Number	As Received		Method	Units	Dilution Factor
			Result	Detection Limit			
00217	Kjeldahl Nitrogen	7727-37-9	0.94 J	0.50		mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015		mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040		mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.1	0.20		mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010		mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.3		mg/l	1
00273	Total Organic Carbon	n.a.	10.3	1.0		mg/l	1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25		mg/l	1
01553	Chemical Oxygen Demand	n.a.	30.4	2.6		mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.	0.2		ug/l	1
00777	Toluene	108-88-3	N.D.	0.2		ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2		ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6		ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.	1.4		ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.6		ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.0		ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55		ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089		ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044		ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044		ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20		ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022		ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044		ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022		ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044		ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089		ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11		ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089		ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022		ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804582

MA3-TG4-3-062806-9      Groundwater  
 3,6,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 12:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M4309 SDG#: KMA83-14

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 13:57	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:12	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	2	07/07/2006 15:28	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/05/2006 06:28	James S Mathiot	1
00345	Total Phosphorus as PO <sub>4</sub> water	EPA 365.1	1	07/03/2006 19:45	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 20:36	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 08:38	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 20:36	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO <sub>4</sub> Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804583

MA3-TG4-3-062806-9-DP Groundwater  
 4,11-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 12:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M439D SDG#: KMA83-15FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.96	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.54	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.086	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.086	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.086	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial# Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 4804583

MA3-TG4-3-062806-9-DP Groundwater  
4,11-062806 02687.007.007.0001  
Moss American

Collected: 06/28/2006 12:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
Reported: 08/03/2006 at 15:23  
Discard: 10/03/2006

Tronox LLC  
P.O. Box 268859  
Oklahoma City OK 73126-8859

M439D	SDG#:	KMA83-15FD						
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006	21:06	Steven A Skiles	1	
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006	09:17	Mark A Clark	1	
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006	21:06	Steven A Skiles	1	
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006	15:30	Emma L Eck	1	



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Lancaster Laboratories Sample No. WW 4804584

MA3-TG5-1-062806-1 Groundwater  
 2,5,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 09:20

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M5101 SDG#: KMA83-16

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	0.50	mg/l 1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l 1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l 1
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.20	mg/l 1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l 1
00235	Biochemical Oxygen Demand	n.a.	N.D.	1.8	mg/l 1
00273	Total Organic-Carbon	n.a.	3.9	1.0	mg/l 1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l 1
01553	Chemical Oxygen Demand	n.a.	12.3	2.6	mg/l 1
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l 1
00777	Toluene	108-88-3	N.D.	0.2	ug/l 1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l 1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l 1
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l 1
00782	Acenaphthylene	208-96-8	N.D.	1.5	ug/l 1
00783	Acenaphthene	83-32-9	N.D.	0.96	ug/l 1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l 1
00785	Phenanthrene	85-01-8	N.D.	0.085	ug/l 1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l 1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l 1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l 1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l 1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l 1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l 1
00895	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.043	ug/l 1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085	ug/l 1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l 1
07409	Chrysene	218-01-9	N.D.	0.085	ug/l 1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l 1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804584

MA3-TG5-1-062806-1      Groundwater  
 2,5,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 09:20

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M5101 SDG#: KMA83-16

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/07/2006 13:58	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:13	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:18	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 02:20	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/05/2006 06:39	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:47	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 21:36	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 09:56	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 21:36	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	07/06/2006 08:50	Carolyn M Mastropietro	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804585

MA3-TG5-2-062806-2 Groundwater  
 2,5,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 09:35

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M5202 SDG#: KMA83-17

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	0.50	mg/l 1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l 1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l 1
00221	Ammonia Nitrogen	7664-41-7	0.77	0.20	mg/l 1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l 1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.3	mg/l 1
00273	Total Organic Carbon	n.a.	6.2	1.0	mg/l 1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l 1
01553	Chemical Oxygen Demand	n.a.	16.1	2.6	mg/l 1
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l 1
00777	Toluene	108-88-3	N.D.	0.2	ug/l 1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l 1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l 1
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.5	ug/l 1
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l 1
00783	Acenaphthene	83-32-9	N.D.	1.0	ug/l 1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l 1
00785	Phenanthrene	85-01-8	N.D.	0.090	ug/l 1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l 1
00807	Fluoranthene	206-44-0	0.062 J	0.045	ug/l 1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l 1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l 1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l 1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l 1
00895	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.045	ug/l 1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.090	ug/l 1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l 1
07409	Chrysene	218-01-9	N.D.	0.090	ug/l 1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l 1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804585

MA3-TG5-2-062806-2 Groundwater  
 2,5,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 09:35

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M5202 SDG#: KMA83-17

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/12/2006 14:15	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:17	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:21	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 03:50	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/05/2006 06:50	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:48	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	2	07/14/2006 06:55	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 22:05	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 10:35	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 22:05	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	07/12/2006 09:00	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804586

MA3-TG5-3-062806-3 Groundwater  
 3,6,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 09:50

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M5303 SDG#: KMA83-18

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	0.50	mg/l 1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l 1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l 1
00221	Ammonia Nitrogen	7664-41-7	0.77	0.20	mg/l 1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l 1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.1	mg/l 1
00273	Total Organic-Carbon	n.a.	5.6	1.0	mg/l 1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l 1
01553	Chemical Oxygen Demand	n.a.	16.2	2.6	mg/l 1
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l 1
00777	Toluene	108-88-3	N.D.	0.2	ug/l 1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l 1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l 1
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	2.1	ug/l 1
00782	Acenaphthylene	208-96-8	N.D.	2.2	ug/l 1
00783	Acenaphthene	83-32-9	N.D.	1.4	ug/l 1
00784	Fluorene	86-73-7	N.D.	0.80	ug/l 1
00785	Phenanthrene	85-01-8	N.D.	0.13	ug/l 1
00789	Anthracene	120-12-7	N.D.	0.064	ug/l 1
00807	Fluoranthene	206-44-0	N.D.	0.064	ug/l 1
00811	Pyrene	129-00-0	N.D.	0.29	ug/l 1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.032	ug/l 1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.064	ug/l 1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.032	ug/l 1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.064	ug/l 1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.13	ug/l 1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.16	ug/l 1
07409	Chrysene	218-01-9	N.D.	0.13	ug/l 1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.032	ug/l 1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804586

MA3-TG5-3-062806-3 Groundwater  
 3,6,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 09:50

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

MS303 SDG#: KMA83-18

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/12/2006 14:16	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:18	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:23	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 03:50	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/05/2006 07:01	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:49	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/06/2006 22:35	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 11:52	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/06/2006 22:35	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	07/12/2006 09:00	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804587

MA3-TG6-1-062806-4      Groundwater  
 1-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 10:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M6104 SDG#: KMA83-19

CAT No.	Analysis Name	CAS Number	As Received		Dilution Factor
			Result	Method Detection Limit	
00217	Kjeldahl Nitrogen	7727-37-9	1.9	0.50	mg/l
	The result obtained for Total Kjeldahl Nitrogen is less than the result obtained for Ammonia-N. The results for both analyses are within the acceptable criteria for duplicate analysis.				1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l
00221	Ammonia Nitrogen	7664-41-7	2.0	0.20	mg/l
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.3	mg/l
00273	Total Organic Carbon	n.a.	8.6	1.0	mg/l
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l
01553	Chemical Oxygen Demand	n.a.	23.7	2.6	mg/l
08213	BTEX (8021)				
00776	Benzene	71-43-2	N.D.	0.2	ug/l
00777	Toluene	108-88-3	N.D.	0.2	ug/l
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l
00774	PAH's in Water by HPLC				
00775	Naphthalene	91-20-3	N.D.	1.4	ug/l
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l
00783	Acenaphthene	83-32-9	N.D.	1.0	ug/l
00784	Fluorene	86-73-7	N.D.	0.56	ug/l
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l
00789	Anthracene	120-12-7	N.D.	0.045	ug/l
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l
00811	Pyrene	129-00-0	N.D.	0.20	ug/l
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l
07409	Chrysene	218-01-9	N.D.	0.089	ug/l
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.



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Lancaster Laboratories Sample No. WW 4804587

MA3-TG6-1-062806-4      Groundwater  
 1-062806      02687.007.007.0001  
 Moss American

Collected: 06/28/2006 10:40

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M6104 SDG#: KMA83-19

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	2	07/17/2006 10:14	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:19	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	2	07/07/2006 15:29	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 03:50	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/05/2006 07:12	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:50	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/05/2006 21:55	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 12:31	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/05/2006 21:55	Stevén A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	3	07/14/2006 10:35	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804588

MA3-TG6-2-062806-5      Groundwater  
 1-062806      02687.007.0001  
 Moss American  
 Collected: 06/28/2006 10:55

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M6205 SDG#: KMA83-20

CAT No.	Analysis Name	CAS Number	As Received		Method	Units	Dilution Factor
			Result	Detection Limit			
00217	Kjeldahl Nitrogen	7727-37-9	0.80 J	0.50		mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015		mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040		mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.77	0.20		mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010		mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.1		mg/l	1
00273	Total Organic Carbon	n.a.	8.4	1.0		mg/l	1
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25		mg/l	1
01553	Chemical Oxygen Demand	n.a.	27.7	2.6		mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.	0.2		ug/l	1
00777	Toluene	108-88-3	N.D.	0.2		ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2		ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6		ug/l	1

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 7.

## 00774 PAH's in Water by HPLC

00775	Naphthalene	91-20-3	N.D.	1.4		ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.5		ug/l	1
00783	Acenaphthene	83-32-9	N.D.	0.98		ug/l	1
00784	Fluoréne	86-73-7	N.D.	0.54		ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.087		ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043		ug/l	1
00807	Fluoranthene	206-44-0	0.32	0.043		ug/l	1
00811	Pyrene	129-00-0	0.29 J	0.20		ug/l	1
00812	Benzo(a)anthracene	56-55-3	0.072 J	0.022		ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	0.075 J	0.043		ug/l	1
00823	Benzo(a)pyrene	50-32-8	0.079 J	0.022		ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043		ug/l	1
00898	Indeno(1,2,3-cd)pyrène	193-39-5	N.D.	0.087		ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11		ug/l	1
07409	Chrysene	218-01-9	N.D.	0.087		ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	0.031 J	0.022		ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for



Page 2 of 2

Lancaster Laboratories Sample No. WW 4804588

MA3-TG6-2-062806-5      Groundwater  
 1-062806      02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 10:55

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M6205 SDG#: KMA83-20

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		
	analysis. The reporting limits were raised accordingly.					

State of Wisconsin Lab Certification No. EN 748

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/12/2006 14:17	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:21	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	1	07/05/2006 11:24	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/10/2006 19:15	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 03:50	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/05/2006 07:24	James S Mäthiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:54	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/05/2006 22:25	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 13:10	Märk A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/05/2006 22:25	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	07/12/2006 09:00	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



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Lancaster Laboratories Sample No. WW 4804589

MA3-TG6-3-062806-6 Groundwater  
 2,5,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 11:10

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M6306 SDG#: KMA83-21\*

CAT No.	Analysis Name	CAS Number	As Received		Method	Units	Dilution Factor
			Result	Detection Limit			
00217	Kjeldahl Nitrogen	7727-37-9	0.73 J	0.50	mg/l	1	
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1	
00221	Ammonia Nitrogen	7664-41-7	0.89	0.20	mg/l	1	
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1	
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.0	mg/l	1	
00273	Total Organic-Carbon	n.a.	7.6	1.0	mg/l	1	
00345	Total Phosphorus as PO <sub>4</sub> water	14265-44-2	N.D.	0.25	mg/l	1	
01553	Chemical Oxygen Demand	n.a.	21.7	2.6	mg/l	1	
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1	
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1	
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1	
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1	
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1	
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1	
00783	Acenaphthene	83-32-9	N.D.	1.2	ug/l	1	
00784	Fluorene	86-73-7	N.D.	0.66	ug/l	1	
00785	Phenanthrene	85-01-8	N.D.	0.11	ug/l	1	
00789	Anthracene	120-12-7	N.D.	0.053	ug/l	1	
00807	Fluoranthene	206-44-0	0.068 J	0.053	ug/l	1	
00811	Pyrene	129-00-0	N.D.	0.24	ug/l	1	
00812	Benzo(a)anthracene	56-55-3	N.D.	0.026	ug/l	1	
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.053	ug/l	1	
00823	Benzo(a)pyrene	50-32-8	N.D.	0.026	ug/l	1	
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.053	ug/l	1	
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.11	ug/l	1	
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.13	ug/l	1	
07409	Chrysene	218-01-9	N.D.	0.11	ug/l	1	
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.026	ug/l	1	

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748



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Lancaster Laboratories Sample No. WW 4804589

MA3-TG6-3-062806-6      Groundwater  
 2,5,11,13,14-062806 02687.007.007.0001  
 Moss American  
 Collected: 06/28/2006 11:10

Account Number: 11947

Submitted: 06/29/2006 10:15  
 Reported: 08/03/2006 at 15:23  
 Discard: 10/03/2006

Tronox LLC  
 P.O. Box 268859  
 Oklahoma City OK 73126-8859

M6306 SDG#: KMA83-21\*

CAT No.	Analysis Name	CAS Number	As Received		Units	Dilution Factor
			Method	Result		

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	07/12/2006 14:20	Nicole M Kepley	1
00219	Nitrite Nitrogen	EPA 353.2	1	06/29/2006 21:24	Venia B McFadden	1
00220	Nitrate Nitrogen	EPA 353.2	2	07/07/2006 15:25	Brian C Veety	1
00221	Ammonia Nitrogen	EPA 350.2	1	07/11/2006 17:00	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	06/30/2006 03:50	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	06/29/2006 13:43	Christopher M Cunningham	1
00273	Total Organic Carbon	EPA 415.1	1	07/05/2006 07:57	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	07/03/2006 19:55	Venia B McFadden	1
01553	Chemical Oxygen Demand	EPA 410.2	1	07/08/2006 06:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	07/05/2006 22:55	Steven A Skiles	1
00774	PAH's in Water by HPLC	SW-846 8310	1	07/08/2006 13:49	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/05/2006 22:55	Steven A Skiles	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	07/12/2006 09:00	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	07/01/2006 15:30	Emma L Eck	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	06/30/2006 16:00	Nancy J Shoop	1



## Quality Control Summary

Client Name: Tronox LLC

Reported: 08/03/06 at 03:23 PM

Group Number: 995493

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 06180023502A Biochemical Oxygen Demand			Sample number(s): 4804569-4804579, 4804582, 4804584-4804589	98	96	85-115	3	8
Batch number: 06180105101B Nitrite Nitrogen	N.D.	0.015	mg/l	98		90-110		
Batch number: 06180105102A Nitrite Nitrogen	N.D.	0.015	mg/l	99		90-110		
Batch number: 06180105102B Nitrite Nitrogen	N.D.	0.015	mg/l	99		90-110		
Batch number: 06181022601A Ortho-Phosphate as P	N.D.	0.010	mg/l	100		95-105		
Batch number: 06181022602A Ortho-Phosphate as P	N.D.	0.010	mg/l	98		95-105		
Batch number: 06181110101A Total Phosphorus as PO <sub>4</sub> water	N.D.	0.25	mg/l	105		89-110		
Batch number: 06181110101B Total Phosphorus as PO <sub>4</sub> water	N.D.	0.25	mg/l	105		89-110		
Batch number: 06181WAJ026 Naphthalene	N.D.	1.3	ug/l	97		57-109		
Acenaphthylene	N.D.	1.4	ug/l	99		67-99		
Acenaphthene	N.D.	0.90	ug/l	99		60-116		
Fluorene	N.D.	0.50	ug/l	104*		75-102		
Phenanthrene	N.D.	0.080	ug/l	107		67-115		
Anthracene	N.D.	0.040	ug/l	101		68-113		
Fluoranthene	N.D.	0.040	ug/l	106		70-112		
Pyrene	N.D.	0.18	ug/l	105		69-113		
Benzo(a)anthracene	N.D.	0.020	ug/l	109		73-114		
Benzo(b)fluoranthene	N.D.	0.040	ug/l	110		72-113		
Benzo(a)pyrene	N.D.	0.020	ug/l	114*		68-112		
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	109		31-121		
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	107		66-109		
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	107		14-124		
Chrysene	N.D.	0.080	ug/l	105		70-111		
Benzo(k)fluoranthene	N.D.	0.020	ug/l	110		72-119		
Batch number: 06183155301A Chemical Oxygen Demand			Sample number(s): 4804569-4804577	101		87-102		
Batch number: 06184049512B			Sample number(s): 4804569-4804572					

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



## Quality Control Summary

Client Name: Tronox LLC  
 Reported: 08/03/06 at 03:23 PM

Group Number: 995493

## Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Total Organic Carbon	N.D.	1.0	mg/l	94		80-120		
Batch number: 06184049513A			Sample number(s): 4804582, 4804584-4804587					
Total Organic Carbon	N.D.	1.0	mg/l	93		80-120		
Batch number: 06184049513B			Sample number(s): 4804588-4804589					
Total Organic Carbon	N.D.	1.0	mg/l	93		80-120		
Batch number: 06186106101A			Sample number(s): 4804570-4804576, 4804584-4804586					
Nitrate Nitrogen	N.D.	0.040	mg/l	106		89-110		
Batch number: 06186106101B			Sample number(s): 4804569, 4804588					
Nitrate Nitrogen	N.D.	0.040	mg/l	106		89-110		
Batch number: 06186A15A			Sample number(s): 4804587-4804589					
Benzene	N.D.	0.2	ug/l	96	90	86-119	6	30
Toluene	N.D.	0.2	ug/l	99	93	82-119	6	30
Ethylbenzene	N.D.	0.2	ug/l	99	94	81-119	5	30
Total Xylenes	N.D.	0.6	ug/l	103	97	82-120	6	30
Batch number: 06187108101A			Sample number(s): 4804569-4804578					
Kjeldahl Nitrogen	N.D.	0.50	mg/l	98		90-110		
Batch number: 06187108101B			Sample number(s): 4804579, 4804582, 4804584					
Kjeldahl Nitrogen	N.D.	0.50	mg/l	98		90-110		
Batch number: 06187A15A			Sample number(s): 4804567-4804586					
Benzene	N.D.	0.2	ug/l	99	101	86-119	2	30
Toluene	N.D.	0.2	ug/l	101	103	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	101	105	81-119	3	30
Total Xylenes	N.D.	0.6	ug/l	104	107	82-120	3	30
Batch number: 06188106102A			Sample number(s): 4804577, 4804579, 4804589					
Nitrate Nitrogen	N.D.	0.040	mg/l	108		89-110		
Batch number: 06188106102B			Sample number(s): 4804578, 4804582, 4804587					
Nitrate Nitrogen	N.D.	0.040	mg/l	108		89-110		
Batch number: 06189155301A			Sample number(s): 4804578-4804579, 4804582, 4804584, 4804586-4804589					
Chemical Oxygen Demand			96			87-102		
Batch number: 06191022101A			Sample number(s): 4804569-4804579, 4804582, 4804584-4804588					
Ammonia Nitrogen	N.D.	0.20	mg/l	97	97	91-100	1	1
Batch number: 06192022101A			Sample number(s): 4804589					
Ammonia Nitrogen	N.D.	0.20	mg/l	98	97	91-100	1	1
Batch number: 06193108102A			Sample number(s): 4804585					
Kjeldahl Nitrogen	N.D.	0.50	mg/l	91		90-110		
Batch number: 06193108102B			Sample number(s): 4804586, 4804588-4804589					
Kjeldahl Nitrogen	N.D.	0.50	mg/l	91		90-110		
Batch number: 06194049511A			Sample number(s): 4804573-4804579					

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



## Quality Control Summary

Client Name: Tronox LLC

Group Number: 995493

Reported: 08/03/06 at 03:23 PM

## Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Total Organic Carbon	N.D.	1.0	mg/l	99		80-120		
Batch number: 06195108101A Kjeldahl Nitrogen	Sample number(s): 4804587 N.D.	0.50	mg/l	99		90-110		
Batch number: 06195155301A Chemical Oxygen Demand	Sample number(s): 4804585			92		87-102		

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 06180023502A			Sample number(s): 4804569-4804579, 4804582, 4804584-4804589 UNSPK: 4804584 BKG: 4804569					
Biochemical Oxygen Demand	103	100	67-144	4	9 N.D.	N.D.	11* (1)	9
Batch number: 06180105101B Nitrite Nitrogen	99		Sample number(s): 4804569-4804573 UNSPK: P804512 BKG: P804512 90-110		N.D.	N.D.	14 (1)	20
Batch number: 06180105102A Nitrite Nitrogen	97		Sample number(s): 4804575-4804579, 4804582, 4804584-4804587 UNSPK: 4804579 BKG: 4804579 90-110		N.D.	N.D.	0 (1)	20
Batch number: 06180105102B Nitrite Nitrogen	104		Sample number(s): 4804574, 4804588-4804589 UNSPK: 4804588 BKG: 4804588 90-110		N.D.	N.D.	0 (1)	20
Batch number: 06181022601A Ortho-Phosphate as P	97	100	Sample number(s): 4804569-4804579, 4804582, 4804584 UNSPK: 4804584 BKG: 4804584 91-110	3	4 N.D.	N.D.	200* (1)	5
Batch number: 06181022602A Ortho-Phosphate as P	98	99	Sample number(s): 4804585-4804589 UNSPK: 4804589 BKG: 4804589 91-110	1	4 N.D.	N.D.	200* (1)	5
Batch number: 06181110101A Total Phosphorus as PO <sub>4</sub> water	100		Sample number(s): 4804569-4804578 UNSPK: 4804569 BKG: 4804569 90-110		N.D.	N.D.	0 (1)	3
Batch number: 06181110101B Total Phosphorus as PO <sub>4</sub> water	112*		Sample number(s): 4804579, 4804582, 4804584-4804589 UNSPK: 4804579 BKG: 4804579 90-110		N.D.	N.D.	0 (1)	3
Batch number: 06181WAJ026 Naphthalene	87	97	Sample number(s): 4804567, 4804569-4804589 UNSPK: 4804579 54-112	10	30			
Acenaphthylene	90	98	63-104	8	30			
Acenaphthene	92	98	59-114	6	30			
Fluorene	98	105*	71-99	6	30			
Phenanthrene	101	106	66-115	5	30			
Anthracene	99	103	68-104	3	30			
Fluoranthene	101	105*	67-104	4	30			
Pyrene	100	102	66-106	2	30			
Benzo(a)anthracene	105	107	63-111	2	30			
Benzo(b)fluoranthene	106	108*	71-106	2	30			

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.



## Quality Control Summary

Client Name: Tronox LLC  
 Reported: 08/03/06 at 03:23 PM

Group Number: 995493

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	MS	MSD	MS/MSD	Limits	RPD	MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
	%REC	%REC								
Benzo(a)pyrene	110*	112*	69-109	2	30					
Dibenz(a,h)anthracene	104	106	62-115	2	30					
Indeno(1,2,3-cd)pyrene	104	106	56-112	2	30					
Benzo(g,h,i)perylene	102	104	56-115	2	30					
Chrysene	102	104*	76-103	2	30					
Benzo(k)fluoranthene	106	108	70-109	1	30					
Batch number: 06183155301A			Sample number(s): 4804569-4804577 UNSPK: P801936 BKG: P802077							
Chemical Oxygen Demand	111	107	60-129	4	5	43.7	45.2	4		8
Batch number: 06184049512B			Sample number(s): 4804569-4804572 UNSPK: P803823 BKG: P803823							
Total Organic Carbon	114		62-148			N.D.	N.D.	200* (1)		2
Batch number: 06184049513A			Sample number(s): 4804582, 4804584-4804587 UNSPK: P804579 BKG: P804579							
Total Organic Carbon	99		62-148			9.8	10.	2 (1)		2
Batch number: 06184049513B			Sample number(s): 4804588-4804589 UNSPK: 4804588 BKG: 4804588							
Total Organic Carbon	98		62-148			8.4	8.0	4* (1)		2
Batch number: 06186106101A			Sample number(s): 4804570-4804576, 4804584-4804586 UNSPK: 4804570 BKG: 4804570							
Nitrate Nitrogen	85*		90-110			0.066 J	0.050 J	27* (1)		2
Batch number: 06186106101B			Sample number(s): 4804569, 4804588 UNSPK: 4804588 BKG: 4804588							
Nitrate Nitrogen	106		90-110			N.D.	N.D.	0 (1)		2
Batch number: 06186A15A			Sample number(s): 4804587-4804589 UNSPK: P803999							
Benzene	94		78-131							
Toluene	96		78-129							
Ethylbenzene	97		75-133							
Total Xylenes	99		84-131							
Batch number: 06187108101A			Sample number(s): 4804569-4804578 UNSPK: 4804569 BKG: 4804569							
Kjeldahl Nitrogen	97		90-110			0.63 J	1.1	54* (1)		7
Batch number: 06187108101B			Sample number(s): 4804579, 4804582, 4804584 UNSPK: 4804584 BKG: 4804584							
Kjeldahl Nitrogen	82*		90-110			N.D.	N.D.	27* (1)		7
Batch number: 06187A15A			Sample number(s): 4804567-4804586 UNSPK: 4804579							
Benzene	95	92	78-131	4	30					
Toluene	98	93	78-129	5	30					
Ethylbenzene	98	93	75-133	5	30					
Total Xylenes	100	95	84-131	5	30					
Batch number: 06188106102A			Sample number(s): 4804577, 4804579, 4804589 UNSPK: 4804577 BKG: 4804577							
Nitrate Nitrogen	89*		90-110			N.D.	0.045 J	200* (1)		2
Batch number: 06188106102B			Sample number(s): 4804578, 4804582, 4804587 UNSPK: 4804578 BKG: 4804578							
Nitrate Nitrogen	104		90-110			N.D.	N.D.	0 (1)		2
Batch number: 06189155301A			Sample number(s): 4804578-4804579, 4804582, 4804584, 4804586-4804589 UNSPK: 4804579 BKG: P803371							
Chemical Oxygen Demand	95	99	60-129	2	5	69.6	71.9	3		8

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



## Quality Control Summary

Client Name: Tronox LLC

Group Number: 995493

Reported: 08/03/06 at 03:23 PM

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD RPD</u>	<u>BKG MAX Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 06191022101A Ammonia Nitrogen			Sample number(s): 4804569-4804579, 4804582, 4804584-4804588		BKG: 4804579 0.85	0.85	0 (1)	2
Batch number: 06192022101A Ammonia Nitrogen			Sample number(s): 4804589	BKG: 4804589	0.89	0.94	5* (1)	2
Batch number: 06193108102A Kjeldahl Nitrogen	100		Sample number(s): 4804585 UNSPK: P803197 BKG: P803197 90-110		N.D.	0.62 J	200* (1)	7
Batch number: 06193108102B Kjeldahl Nitrogen	76*		Sample number(s): 4804586, 4804588-4804589 UNSPK: 4804589 BKG: 4804589 90-110		0.73 J	0.66 J	10* (1)	7
Batch number: 06194049511A Total Organic Carbon	102		Sample number(s): 4804573-4804579 UNSPK: 4804579 BKG: 4804579 62-148		10.3	10.4	1	2
Batch number: 06195108101A Kjeldahl Nitrogen	82*		Sample number(s): 4804587 UNSPK: P799801 BKG: P799801 90-110		4.5	4.7	5 (1)	7
Batch number: 06195155301A Chemical Oxygen Demand	93	93	Sample number(s): 4804585 UNSPK: P809294 BKG: P809294 60-129	0	5	29.9	30.3	1 (1)
								8

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PAH's in Water by HPLC

Batch number: 06181WAJ026

Nitrobenzene

Triphenylene

4804567	109	113
4804569	115	3552*
4804570	115	110
4804571	110	113
4804572	107	113
4804573	110	113
4804574	112	114
4804575	106	109
4804576	112	113
4804577	105	112
4804578	109	110
4804579	106	110
4804580	107	107
4804581	113	114
4804582	111	114
4804583	101	108
4804584	109	110
4804585	111	109
4804586	111	117

\*: Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.



### Quality Control Summary

Client Name: Tronox LLC  
 Reported: 08/03/06 at 03:23 PM

Group Number: 995493

#### Surrogate Quality Control

4804587	106	112
4804588	109	110
4804589	112	115
Blank	104	112
LCS	116	116
MS	107	107
MSD	113	114

---

Limits: 80-138                        55-130

Analysis Name: BTEX (8021)  
 Batch number: 06186A15A  
 Trifluorotoluene-P

---

4804587	104
4804588	104
4804589	104
Blank	104
LCS	103
LCSD	103
MS	102

---

Limits: 69-129

Analysis Name: BTEX (8021)  
 Batch number: 06187A15A  
 Trifluorotoluene-P

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4804567	104
4804568	104
4804569	102
4804570	102
4804571	104
4804572	104
4804573	104
4804574	104
4804575	104
4804576	105
4804577	104
4804578	104
4804579	104
4804580	103
4804581	103
4804582	104
4804583	104
4804584	104
4804585	105
4804586	104
Blank	105
LCS	103
LCSD	102
MS	103
MSD	103

---

Limits: 69-129

\*. Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



Page 7 of 7

### **Quality Control Summary**

**Client Name:** Tronox LLC  
**Reported:** 08/03/06 at 03:23 PM

**Group Number:** 995493

- \*- Outside of specification
- (1) The result for one or both determinations was less than five times the LOQ.
  - (2) The background result was more than four times the spike added.

COC ID: COC1-06282006

## **Chain of Custody Record**

**WESTON**  
EQUIPMENT

Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

W. O. 02687.007.007.0001

Lab LANCASTER LABS

**TAT PER QUOTE**

Contact Name Tom Gram

Contact Phone No. 847-918-4142

Lab Contact C. SWEIGART

**Lab Phone** 717-656-2308 X1527

**Filtered  
Container  
Preservative**

11947

945493

4804567-90

COC ID: COC1-08282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

W. O. 02687,007,007,0001

Lab LANCASTER LABS

**TAT PER QUOTE**

**Contact Name** Tom Graan

Contact Phone No. 847-918-4142

Lab Contact: C. SWEIGART

**Lab Phone** 717-656-2308 X1527

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N		Received in good condition Y N	
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N		Labels indicate Properly Preserved Y N	
	1	2	3	4	5	COC Tape ws present on sample Y N		Received within Holding Time Y N	
						COC Tape was unbroken on sample Y N			
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time		
<i>Castillo</i>	<i>6/28/06 (800)</i>								

111. 19 92 4-45 9.

COC ID: COC1-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee  
**Site Name** Moss American  
**W. O.** 02687.007.007.0001  
**Lab** LANCASTER LABS  
**TAT** PER QUOTE

Contact Name Tom Graan  
Contact Phone No. 847-918-4142  
Lab Contact C. SWEIGART  
Lab Phone 717-656-2308 X1527

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape was present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
2001	6/29/06 1800						
Sampled By	<u>M. Castillo</u>						
	<u>A. Hutchinson</u> 6/29/06 1055						

1447

495443

480456-1-70

COC ID: COC2-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

W. O. 02687.007.007.0001

**Lab** LANCASTER LABS

**TAT**      **PER QUOTE**

**Contact Name** Tom Graan

Contact Phone No. 847-918-4142

**Lab Contact** C. SWEIGART

Lab Phone 717-656-2308 X1527

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape was present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
<i>200</i>	<i>6/29/06 (200)</i>						
Sampled By	<i>Castillo</i>						
	<i>A. Hutchinson 6/29/06 10LS</i>						

COC ID: COC3-06282006

1919. 95.3 , 80.57 .5.

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

W. O. 02687.007.007.0001

Lab LANCASTER L

Contact Name Tom Graan

Contact Phone No. 847-918-4142

**Lab Contact**      **C. SWEIGART**

**Lab Phone** 717-656-2308 X1527

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape ws present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
200QW	6-28-06 1800						

11947 995493 4804567-40

COC ID: COC4-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee  
**Site Name** Moss American  
**W. O.** 02687.007.007.000  
**Lab** LANCASTER LABS  
**TAT** PER QUOTE

Contact Name Tom Graan  
Contact Phone No. 847-918-4142  
Lab Contact C. SWEIGART  
Lab Phone 717-666-2308 X15

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape was present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
<i>A. Hutchins</i>	6/29/06 1000						

Sampled By Castillo

*A. Hutchins* 6/29/06 1015

COC ID: COC5-06282006

## **Chain of Custody Record**

**WESTON**  
INDUSTRIES

Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

. W. O. 02687.007.007.0001

Lab LANCASTER

Contact Name Tom Graan

**Contact Phone No.** 847-918-4142

**Lab Contact** C. SWEIGART

**Lab Phone** 717-656-2308 X1527

	3512-						
	TKN,36.1-						
	TP,410.2-COD						
350.2-NH3							
0ml-Round G	0ml-Round C	-					
H2SO4	H2SO4						

11441 440420 480456 1-20

## **Chain of Custody Record**



Page 1 of 1

COC ID: COC6-08282006

**Client** Kerr McGee

**Site Name** Moss American

**Contact Name** Tom Graan

W.C. 02687-007-007-0001

Contact Phone No. 847-918-4142

Lab LANCASTER LABS

Lab Contact C. SWEIGART

**Lab Phone** 717-666-2308 X1527

	351.2- TKN,365.1- TP,410.2,COD							
350.2-NH3								
0ml-Round	GbmL-Round C							
H2SO4	H2SO4							

Remarks/Comments  Castillo Ade	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape was present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
6-280G (800)							

47 C. 54. - 404-7-11

COC ID: COC8-06282008

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

Contact Name Tom Graan

W. O. 02687.007.007.0001

Contact Phone No. 847-918-4142

**Lab LANCASTER LA**

**Lab Contact:** C. SWEIGART

8310-PAHs								
0mL Amber G								
N/A								

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape was present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
Castillo	2006 1800						

1947

495493

4804567-90

COC ID: COC9-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

**Contact Name** Tom Graan

W. O. 02687.007.007.0001

Contact Phone No. 847-918-4142

Lab LANCASTER LABS

**Lab Contact**

**C. SWEIGART**

**TAT PER QUOTE**

**Lab Phone** 717-656-2308 X1527

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape was present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
<i>WJL</i>	<i>6/28/06 1800</i>						

COC ID: COC10-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

W. O. 02687.007.007.0001

**Lab** LANCASTER LABS

**TAT      PER QUOTE**

**Contact Name** Tom Graan

Contact Phone No. 847-918-4142

**Lab Contact** C. SWEIGART

**Lab Phone** 717-656-2308 X1527

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N		Received in good condition Y N	
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N		Labels indicate Properly Preserved Y N	
	1	2	3	4	5	COC Tape was present on sample Y N		Received within Holding Time Y N	
						COC Tape was unbroken on sample Y N			
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time		
<i>2011-052906 1800</i>									
<i>Cash 16</i>									

11947 995493 4804567-90

COC ID: COC11-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

W. O. 02687.007.007.0001

**Lab** **LANCASTER LABS.**

**TAT PER QUOTE**

Contact Name Tom Graan

Contact Phone No. 847-918-4142

**Lab Contact** **C. SWEIGART**

**Lab Phone** **717-658-2308 X1527**


Filtered Container	0ml-Glass Vial						
Preservative	N/A	H2SO4	HCl				

Remarks/Comments	Lab Use Only					COC Tape was present on outer package Y N	Received in good condition Y N
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N	Labels indicate Properly Preserved Y N
	1	2	3	4	5	COC Tape was present on sample Y N	Received within Holding Time Y N
						COC Tape was unbroken on sample Y N	
Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
<i>Castillo</i>	<i>2006-6-29 06:18:00</i>						

COC ID: COC12-06282006

.94 . 195 . 3 4-- 05 - 4

**Chain of Custody Record**

Page 1 of 1

Client Kerr McGeeSite Name Moss AmericanW. O. 02687.007.007.0001Lab LANCASTER LABSTAT PER QUOTEContact Name Tom GraanContact Phone No. 847-918-4142Lab Contact C. SWEIGARTLab Phone 717-656-2308 X1527

Filtered Container Preservative	802-B-BTEX												
		0ml-Glass Vial											
		HCl											
Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected								
	MA3-TB-062806-1	W	N	6/28/2006 18:30	3								

1947 495493 7804547-40

COC ID: COC13-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee  
**Site Name** Moss American  
**W. O.** 02687.007.007.0001  
**Lab** LANCASTER LABS  
**TAT** PER QUOTE

Contact Name Tom Green  
Contact Phone No. 847-918-4142  
Lab Contact C. SWEIGART  
Lab Phone 717-656-2308 X1527

<b>365.3-OP,405.1-BOD</b>								

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	Filtered				
						Container	1000ml-Plastic			
						Preservative	N/A			
	MA3-TG1-1-062806-16	W		N	6/28/2006 16:45		1			
	MA3-TG1-2-062806-17	W		N	6/28/2006 16:55		1			
	MA3-TG1-3-062806-18	W		N	6/28/2006 17:15		1			
	MA3-TG2-1-062806-13	W		N	6/28/2006 15:40		1			
	MA3-TG2-2-062806-14	W		N	6/28/2006 15:55		1			
	MA3-TG2-3-062806-15	W		N	6/28/2006 16:05		1			
	MA3-TG3-1-062806-10	W		N	6/28/2006 14:00		1			
	MA3-TG3-2-062806-11	W		N	6/28/2006 14:20		1			
	MA3-TG3-3-062806-12	W		N	6/28/2006 14:40		1			
	MA3-TG4-1-062806-7	W		N	6/28/2006 12:15		1			
	MA3-TG4-2-062806-8	W		N	6/28/2006 12:25		1			
	MA3-TG4-2-062806-8-MSD	W		Y	6/28/2006 12:25		2			
	MA3-TG4-3-062806-9	W		N	6/28/2006 12:40		1			
	MA3-TG4-3-062806-9-DP	W		N	6/28/2006 12:40		1			
	MA3-TG5-1-062806-1	W		N	6/28/2006 09:20		1			
	MA3-TG5-2-062806-2	W		N	6/28/2006 09:35		1			
	MA3-TG5-3-062806-3	W		N	6/28/2006 09:50		1			
	MA3-TG6-3-062806-6	W		N	6/28/2006 11:10		1			

Remarks/Comments  Sampled By <u>Castillo</u>	Lab Use Only					COC Tape was present on outer package Y N		Received in good condition Y N						
	Temp of Cooler when Received, C					COC Tape was unbroken on outer package Y N		Labels indicate Property Preserved Y N						
	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>					1	2	3	4	5	COC Tape was present on sample Y N		Received within Holding Time Y N	
	1	2	3	4	5									
						COC Tape was unbroken on sample Y N								
	Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time						
<u>J.D.</u>	6/29/06 1800													

COC ID: COC14-06282006

## **Chain of Custody Record**



Page 1 of 1

**Client** Kerr McGee

**Site Name** Moss American

**Contact Name** Tom Graan

W. O. 02687.007.007.0001

Contact Phone No. 847-918-4142

Lab LANCASTER LABS

**Lab Contact**

**TAT PER QUOTE**

**Lab Phone** 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected						
	MA3-FB-062806-19	W		N	6/28/2006 17:30				3		
	MA3-TB-062806-2	W		N	6/28/2006 18:35				3		
	MA3-TG1-1-062806-16	W		N	6/28/2006 16:45			1			
	MA3-TG1-2-062806-17	W		N	6/28/2006 16:55			1			
	MA3-TG1-3-062806-18	W		N	6/28/2006 17:15			1			
	MA3-TG2-1-062806-13	W		N	6/28/2006 15:40			1			
	MA3-TG2-2-062806-14	W		N	6/28/2006 15:55			1			
	MA3-TG2-3-062806-15	W		N	6/28/2006 16:05			1			
	MA3-TG3-1-062806-10	W		N	6/28/2006 14:00	1	1	1	3		
	MA3-TG3-2-062806-11	W		N	6/28/2006 14:20	1	1	1	3		
	MA3-TG3-3-062806-12	W		N	6/28/2006 14:40	1	1	1	3		
	MA3-TG4-1-062806-7	W		N	6/28/2006 12:15	1	1	1	3		
	MA3-TG4-2-062806-8	W		N	6/28/2006 12:25			1			
	MA3-TG4-3-062806-9	W		N	6/28/2006 12:40			1			
	MA3-TG5-1-062806-1	W		N	6/28/2006 09:20			1			
	MA3-TG5-2-062806-2	W		N	6/28/2006 09:35			1			
	MA3-TG5-3-062806-3	W		N	6/28/2006 09:50			1			
	MA3-TG6-3-062806-6	W		N	6/28/2006 11:10			1			

# Microbac

July 27, 2006

Tom Graan  
Weston Solutions, Inc.  
750 East Bunker Court  
Suite 500  
Vernon Hills, IL 60061-1450

Work Order No.: ME0606A63

RE: Kerr McGee / Moss American

Dear Tom Graan:

Microbac Laboratories, Inc. received 18 samples on 6/29/2006 10:30:00 AM for the analyses presented in the following report.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted. This report includes the numbered pages as well as the Cooler Inspection Report and Chain of Custody form(s).

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

Sincerely,  
Microbac Laboratories, Inc.



Carey A. Gervase  
Project Manager

Enclosures

# Microbac

## WORK ORDER SAMPLE SUMMARY

Date:

Thursday, July 27, 2006

CLIENT: Weston Solutions, Inc.  
Project: Kerr McGee / Moss American  
Lab Order: ME0606A63

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
ME0606A63-01A	MA3-TG1-1-062806-16		6/28/2006 4:45:00 PM	6/29/2006
ME0606A63-02A	MA3-TG1-2-062806-17		6/28/2006 4:55:00 PM	6/29/2006
ME0606A63-03A	MA3-TG1-3-062806-18		6/28/2006 5:15:00 PM	6/29/2006
ME0606A63-04A	MA3-TG2-1-062806-13		6/28/2006 3:40:00 PM	6/29/2006
ME0606A63-05A	MA3-TG2-2-062806-14		6/28/2006 3:55:00 PM	6/29/2006
ME0606A63-06A	MA3-TG2-3-062806-15		6/28/2006 4:05:00 PM	6/29/2006
ME0606A63-07A	MA3-TG3-1-062806-10		6/28/2006 2:00:00 PM	6/29/2006
ME0606A63-08A	MA3-TG3-2-062806-11		6/28/2006 2:20:00 PM	6/29/2006
ME0606A63-09A	MA3-TG3-3-062806-12		6/28/2006 2:40:00 PM	6/29/2006
ME0606A63-10A	MA3-TG4-1-062806-7		6/28/2006 12:15:00 PM	6/29/2006
ME0606A63-11A	MA3-TG4-2-062806-8		6/28/2006 12:25:00 PM	6/29/2006
ME0606A63-12A	MA3-TG4-3-062806-9		6/28/2006 12:40:00 PM	6/29/2006
ME0606A63-13A	MA3-TG5-1-062806-1		6/28/2006 9:20:00 AM	6/29/2006
ME0606A63-14A	MA3-TG5-2-062806-2		6/28/2006 9:35:00 AM	6/29/2006
ME0606A63-15A	MA3-TG5-3-062806-3		6/28/2006 9:50:00 AM	6/29/2006
ME0606A63-16A	MA3-TG6-3-062806-6		6/28/2006 11:10:00 AM	6/29/2006
ME0606A63-17A	MA3-TG6-1-062806-4		6/28/2006 10:40:00 AM	6/29/2006
ME0606A63-18A	MA3-TG6-2-062806-5		6/28/2006 10:55:00 AM	6/29/2006

# Microbac

## ANALYTICAL RESULTS

Date: Thursday, July 27, 2006

**Client:** Weston Solutions, Inc. **Work Order:** ME0606A63  
**Client Project:** Kerr McGee / Moss American **Received:** 06/29/06 10:30

Analyses	Result	Units	Qual	Analyzed	Tech	Method
01A MA3-TG1-1-062806-16 -						Collected: 06/28/06 16:45
Total Aerobic Degrader Bacteria	710	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	4000	cfu/ml		06/29/06 20:00	BR	9215B MOD
02A MA3-TG1-2-062806-17 -						Collected: 06/28/06 16:55
Total Aerobic Degrader Bacteria	< 100	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	71000	cfu/ml		06/29/06 20:00	BR	9215B MOD
03A MA3-TG1-3-062806-18 -						Collected: 06/28/06 17:15
Total Aerobic Degrader Bacteria	< 100	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	85000	cfu/ml		06/29/06 20:00	BR	9215B MOD
04A MA3-TG2-1-062806-13 -						Collected: 06/28/06 15:40
Total Aerobic Degrader Bacteria	< 100	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	1100	cfu/ml		06/29/06 20:00	BR	9215B MOD
05A MA3-TG2-2-062806-14 -						Collected: 06/28/06 15:55
Total Aerobic Degrader Bacteria	< 100	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	280	cfu/ml		06/29/06 20:00	BR	9215B MOD
06A MA3-TG2-3-062806-15 -						Collected: 06/28/06 16:05
Total Aerobic Degrader Bacteria	720	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	45000	cfu/ml		06/29/06 20:00	BR	9215B MOD
07A MA3-TG3-1-062806-10 -						Collected: 06/28/06 14:00
Total Aerobic Degrader Bacteria	130	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	1600	cfu/ml		06/29/06 20:00	BR	9215B MOD
08A MA3-TG3-2-062806-11 -						Collected: 06/28/06 14:20
Total Aerobic Degrader Bacteria	920	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	1100	cfu/ml		06/29/06 20:00	BR	9215B MOD
09A MA3-TG3-3-062806-12 -						Collected: 06/28/06 14:40
Total Aerobic Degrader Bacteria	240	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	17000	cfu/ml		06/29/06 20:00	BR	9215B MOD
10A MA3-TG4-1-062806-7 -						Collected: 06/28/06 12:15
Total Aerobic Degrader Bacteria	200	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	4400	cfu/ml		06/29/06 20:00	BR	9215B MOD
11A MA3-TG4-2-062806-8 -						Collected: 06/28/06 12:25
Total Aerobic Degrader Bacteria	2400	cfu/ml		06/29/06 20:00	BR	9215B MOD

# Microbac

## ANALYTICAL RESULTS

Date:

Thursday, July 27, 2006

<b>Client:</b>	Weston Solutions, Inc.	<b>Work Order:</b>	ME0606A63
<b>Client Project:</b>	Kerr McGee / Moss American	<b>Received:</b>	06/29/06 10:30

Analyses	Result	Units	Qual	Analyzed	Tech	Method
Total Aerobic Bacteria	2200	cfu/ml		06/29/06 20:00	BR	9215B MOD
<b>12A MA3-TG4-3-062806-9 -</b>						<i>Collected: 06/28/06 12:40</i>
Total Aerobic Degrader Bacteria	2000	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	5000	cfu/ml		06/29/06 20:00	BR	9215B MOD
<b>13A MA3-TG5-1-062806-1 -</b>						<i>Collected: 06/28/06 09:20</i>
Total Aerobic Degrader Bacteria	< 100	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	1100	cfu/ml		06/29/06 20:00	BR	9215B MOD
<b>14A MA3-TG5-2-062806-2 -</b>						<i>Collected: 06/28/06 09:35</i>
Total Aerobic Degrader Bacteria	1100	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	820	cfu/ml		06/29/06 20:00	BR	9215B MOD
<b>15A MA3-TG5-3-062806-3 -</b>						<i>Collected: 06/28/06 09:50</i>
Total Aerobic Degrader Bacteria	< 100	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	620	cfu/ml		06/29/06 20:00	BR	9215B MOD
<b>16A MA3-TG6-3-062806-6 -</b>						<i>Collected: 06/28/06 11:10</i>
Total Aerobic Degrader Bacteria	320	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	250	cfu/ml		06/29/06 20:00	BR	9215B MOD
<b>17A MA3-TG6-1-062806-4 -</b>						<i>Collected: 06/28/06 10:40</i>
Total Aerobic Degrader Bacteria	12000	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	44000	cfu/ml		06/29/06 20:00	BR	9215B MOD
<b>18A MA3-TG6-2-062806-5 -</b>						<i>Collected: 06/28/06 10:55</i>
Total Aerobic Degrader Bacteria	1800	cfu/ml		06/29/06 20:00	BR	9215B MOD
Total Aerobic Bacteria	89000	cfu/ml		06/29/06 20:00	BR	9215B MOD

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## **FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)**

NA	=	Not Analyzed	N/A	=	Not Applicable		
mg/L	=	Milligrams per Liter (ppm)	ug/L	=	Micrograms per Liter (ppb)	cfu	= Colony Forming Unit
mg/Kg	=	Milligrams per Kilogram (ppm)	ug/Kg	=	Micrograms per Kilogram (ppb)	ng/L	= Nanograms per Liter (ppt)
U	=	Undetected					
J	=	Analyte concentration detected between RL and MDL (Metals / Organics)					
B	=	Detected in the associated Method Blank at a concentration above the routine PQL/RL					
b	=	Detected in the associated Method Blank at a concentration above the Method Detection Limit but less than the routine PQL/RL					
D	=	Surrogate recoveries are not calculated due to sample dilution					
ND	=	Not Detected at the Reporting Limit (or the Method Detection Limit, if listed)					
E	=	Value above quantitation range					
H	=	Analyte was prepared and/or analyzed outside of the analytical method holding time					
I	=	Matrix Interference					
R	=	RPD outside accepted recovery limits					
S	=	Spike recovery outside recovery limits					
Surr	=	Surrogate					
DF	=	Dilution Factor	RL	=	Reporting Limit	ST	= Sample Type
							MDL = Method Detection Limit

## **SAMPLE TYPES**

A	=	Analyte
I	=	Internal Standard
S	=	Surrogate
T	=	Tentatively Identified Compound (TIC, concentration estimated)

## **QC SAMPLE IDENTIFICATIONS**

MBLK	=	Method Blank	ICSA	=	Interference Check Standard "A"	OPR	=	Ongoing Precision and Recovery Standard
DUP	=	Method Duplicate	ICSB	=	Interference Check Standard "AB"			
LCS	=	Laboratory Control Sample	LCSD	=	Laboratory Control Sample Duplicate			
MS	=	Matrix Spike	MSD	=	Matrix Spike Duplicate			
ICB	=	Initial Calibration Blank	CCB	=	Continuing Calibration Blank			
ICV	=	Initial Calibration Verification	CCV	=	Continuing Calibration Verification			
PDS	=	Post Digestion Spike	SD	=	Serial Dilution			

## **CERTIFICATIONS**

*Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.*

- Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #100435)
- Illinois Department of Public Health for the microbiological analysis of drinking water (registry #175458)
- Indiana DEM approved support laboratory for solid waste and wastewater analyses
- Indiana SDH for the chemical analysis of drinking water (lab #C-45-02)
- Indiana SDH for the microbiological analysis of drinking water (lab #M-45-08)
- Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #0061)
- North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations (certificate #597)
- Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

## **MICROBAC LOCATIONS**

Corporate	-	Wexford, PA	Camp Hill Division	-	Camp Hill, PA
Pittsburgh Division	-	Warrendale, PA	Knoxville Division	-	Maryville, TN
Eric Division	-	Eric, PA / Wilkes-Barre, PA	Venice Division	-	Venice, FL / Fort Myers, FL
New Castle Division	-	New Castle, PA	South Carolina Division	-	New Ellenton, SC
Kentucky Testing Division	-	Louisville, KY / Evansville, IN	Fayetteville Division	-	Fayetteville, NC
Massachusetts Division	-	Marlboro, MA	Southern Testing Division	-	Wilson, NC
Gascoyne Division	-	Baltimore, MD	Hauser Division	-	Boulder, CO
Corona Division	-	Corona, CA	Friend Laboratory	-	Waverly, NY
South Jersey Division	-	Turnersville, NJ			

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## COOLER INSPECTION

**Date:** Thursday, July 27, 2006

Client Name **WESTON - VERNON HILLS**

Work Order Number **ME0606A63**

Checklist completed by **DP** | **6/29/2006 10:58:49 AM**

Date / Time Received: **6/29/2006 10:30:00 AM**

Received by **DP**

Reviewed by **CG** | **6/29/2006 5:08:11 PM**

	<u>Carrier name</u>	<u>FedEx</u>		
After-Hour Arrival?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>	
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody included sufficient client identification?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody included sufficient sample collector information?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody included a sample description?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody identified the appropriate matrix?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody included date of collection?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody included time of collection?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody identified the appropriate number of containers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody identified the appropriate preservatives?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Samples properly preserved?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

If No, adjusted by?

Date/Time \_\_\_\_\_

Chain of custody included the requested analyses?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Samples received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Container/Temp Blank temperature	Temp: 4 °C	
VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

**ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.**

General Comments:

Sample ID	Client Sample ID	Comments
ME0606A63-01A	MA3-TG1-1-062806-16	
ME0606A63-02A	MA3-TG1-2-062806-17	
ME0606A63-03A	MA3-TG1-3-062806-18	
ME0606A63-04A	MA3-TG2-1-062806-13	
ME0606A63-05A	MA3-TG2-2-062806-14	
ME0606A63-06A	MA3-TG2-3-062806-15	
ME0606A63-07A	MA3-TG3-1-062806-10	
ME0606A63-08A	MA3-TG3-2-062806-11	
ME0606A63-09A	MA3-TG3-3-062806-12	
ME0606A63-10A	MA3-TG4-1-062806-7	
ME0606A63-11A	MA3-TG4-2-062806-8	
ME0606A63-12A	MA3-TG4-3-062806-9	

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Sample ID	Client Sample ID	Comments
ME0606A63-13A	MA3-TG5-1-062806-1	
ME0606A63-14A	MA3-TG5-2-062806-2	
ME0606A63-15A	MA3-TG5-3-062806-3	
ME0606A63-16A	MA3-TG6-3-062806-6	
ME0606A63-17A	MA3-TG6-1-062806-4	
ME0606A63-18A	MA3-TG6-2-062806-5	

COC ID: COC7-06282006

## **Chain of Custody Record**



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**Client** Kerr McGee

: Site Name Moss American

Contact Name Tom Green

Contact Phone No. 847-918-4142

**Lab Contact** N. MCDONALD

**Lab Phone** 219-932-1770

**Remarks/Comments**

Lab Use Only

**Temp of Cooler when Received, C**

1	2	3	4	5
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COC Tapes were present on quiet packages  X  N

COC Tape was unbroken on outer package. S N

COC Tapes were present on sample Y N

COC Tape was unbroken on sample Y N

Research and Application 21

Received in good condition N

Received within Holding Time  Y  N

- 10 -

Sampled By

*Call 6-29-91*

